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A Review of the 1983 Commercial Salmon Fisheries on the Queen Charlotte Islands (Areas 1, 2W and 2E): Catch, Escapement and Management Strategies

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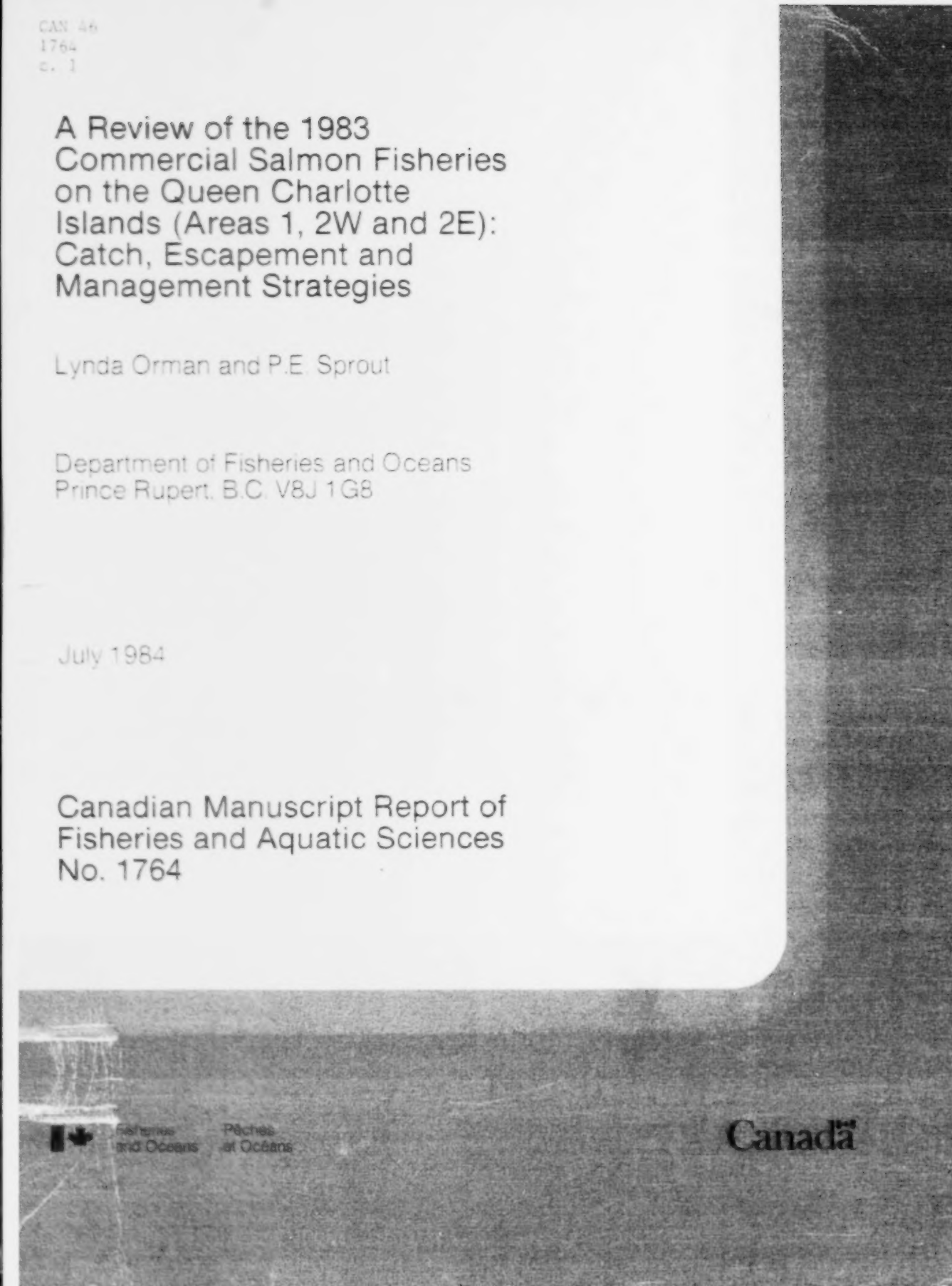

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A REVIEW OF THE 1983 COMMERCIAL SALMON FISHERIES ON THE QUEEN CHARLOTTE ISLANDS (AREAS 1, 2W AND 2E): CATCH, ESCAPEMENT AND MANAGEMENT STRATEGIES

by

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ABSTRACT

Orman, Lynda and P.E. Sprout. 1984. A review of the 1983 commercial salmon fisheries on the Queen Charlotte Islands (Areas 1, 2W and 2E): catch, escapement and management strategies. Can. MS Rep. Fish. Aquat. Sci. 1764: 34 p.

In 1983, returns of salmon to the Queen Charlotte Islands (Statistical Areas 1, 2W and 2E) were low and no directed fisheries on local stocks occurred. Fisheries in Areas 1 and 2W were on passing stocks and catches were most likely composed, in varying proportions, of stocks originating from the Nass and Skeena rivers, southeast Alaska and the Fraser River. In Area 1, the net catch was less than average for all species while in Area 2W, the pink and sockeye net catches were the highest on record. Unusually warm water conditions may have influenced salmon migration routes and timing and thus affected catch distributions.

This report reviews management actions and documents how management decisions were made for commercial fisheries in Areas 1, 2W and 2E, what information was used, how it was interpreted, and what the results were in terms of catch and escapement.

Key words: Queen Charlotte Islands, 1983 commercial salmon net fisheries, management strategies

RÉSUMÉ

Orman, Lynda and P.E. Sprout. 1984. A review of the 1983 commercial salmon fisheries on the Queen Charlotte Islands (Areas 1, 2W and 2E): catch, escapement and management strategies. Can. MS Rep. Fish. Aquat. Sci. 1764: 34 p.

En 1983, les remontées de saumon vers les Îles Reine-Charlotte (zones statistiques 1, 2W et 2E) ont été faibles et aucune pêche sélective des stocks locaux n'a eu lieu. Dans les zones 1 et 2W, la pêche a été dirigée vers les stocks de passage et les prises étaient composées, en proportions variables, de stocks provenant des rivières Nass et Skeena, du sud-est de l'Alaska et du fleuve Fraser. Dans la zone 1, les prises au filet ont été inférieures à la moyenne pour toutes les espèces tandis que, dans la zone 2W, les prises de saumons rose et rouge battaient tous les records. L'eau exceptionnellement chaude peut avoir influer sur les schèmes migratoires du saumon et le moment de la migration, et donc sur les répartitions des prises.

Le présent rapport porte sur les mesures gestionnelles et explique comment les décisions ont été prises pour ce qui est de la pêche commerciale dans les zones 1, 2W et 2E, quelles données ont été utilisées, comment elles ont été interprétées et quels résultats ont été obtenus en termes de prises et de remontées.

Mots-clés: Îles Reine-Charlotte, pêches commerciales du saumon au filet en 1983, stratégies gestionnelles

INTRODUCTION

Since the early 1900's, salmon fisheries around the Queen Charlotte Islands have been providing a variable catch contribution to the total B.C. salmon harvest. Stock management systems have been evolving very slowly over this period, with little or no documentation of management strategies and their effect on salmon catches.

Recent studies stressed the importance of management decision records and noted that their absence makes it difficult to appraise and evaluate management results (Pearse 1982). Others have argued that learning from fisheries management actions is impeded without a record of strategies and may increase the risk that past incorrect management actions will be repeated (Anon. 1982). As well, the lack of a written record limits transfer of knowledge among fisheries managers and makes it difficult to benefit from past experience in a systematic manner.

The purpose of this report is to review strategies used to manage the commercial salmon net fisheries in the Queen Charlotte Islands area (Statistical Areas 1, 2W and 2E) in 1983. It documents how management decisions were made, what information was used to base the decisions on, how the information was interpreted, and what the results were in terms of catch and escapement.

AREA DESCRIPTION

The Queen Charlotte Islands lie approximately 100 km off the west coast of Canada in northern British Columbia and cover a land mass of 6900 km^2 (Fig. 1). The North American continental shelf falls steeply on the westward side of the islands, while a submerged plateau and former land mass spreads to the east in the shallower waters of Hecate Strait. North and southward migrations of salmon and other marine species occur in the waters surrounding these islands. The islands are comprised of two main land masses: Graham Island to the north and Moresby Island to the south (Fig. 1), which bear approximately 200 salmon spawning streams. Numerous smaller islands are scattered along the shores of the two main islands, particularly to the south-east. The highly indented coastline contains a number of productive estuaries with good rearing habitat for salmonids as well as other marine species, and provides sheltered access to the fishing fleet.

The waters surrounding the Queen Charlotte Islands comprise Statistical Areas 1, 2 West and 2 East (Fig. 2) of the Department of Fisheries and Oceans (DFO) fisheries operations. A fisheries district office is located in Queen Charlotte city. In addition, sub-district offices are located in Masset and Sandspit where fishery officers provide protection and assessment of the resource on a more local scale. A sub-regional office located in Prince Rupert (Fig. 1) houses additional northern operations staff, including management biologists and a northern director.

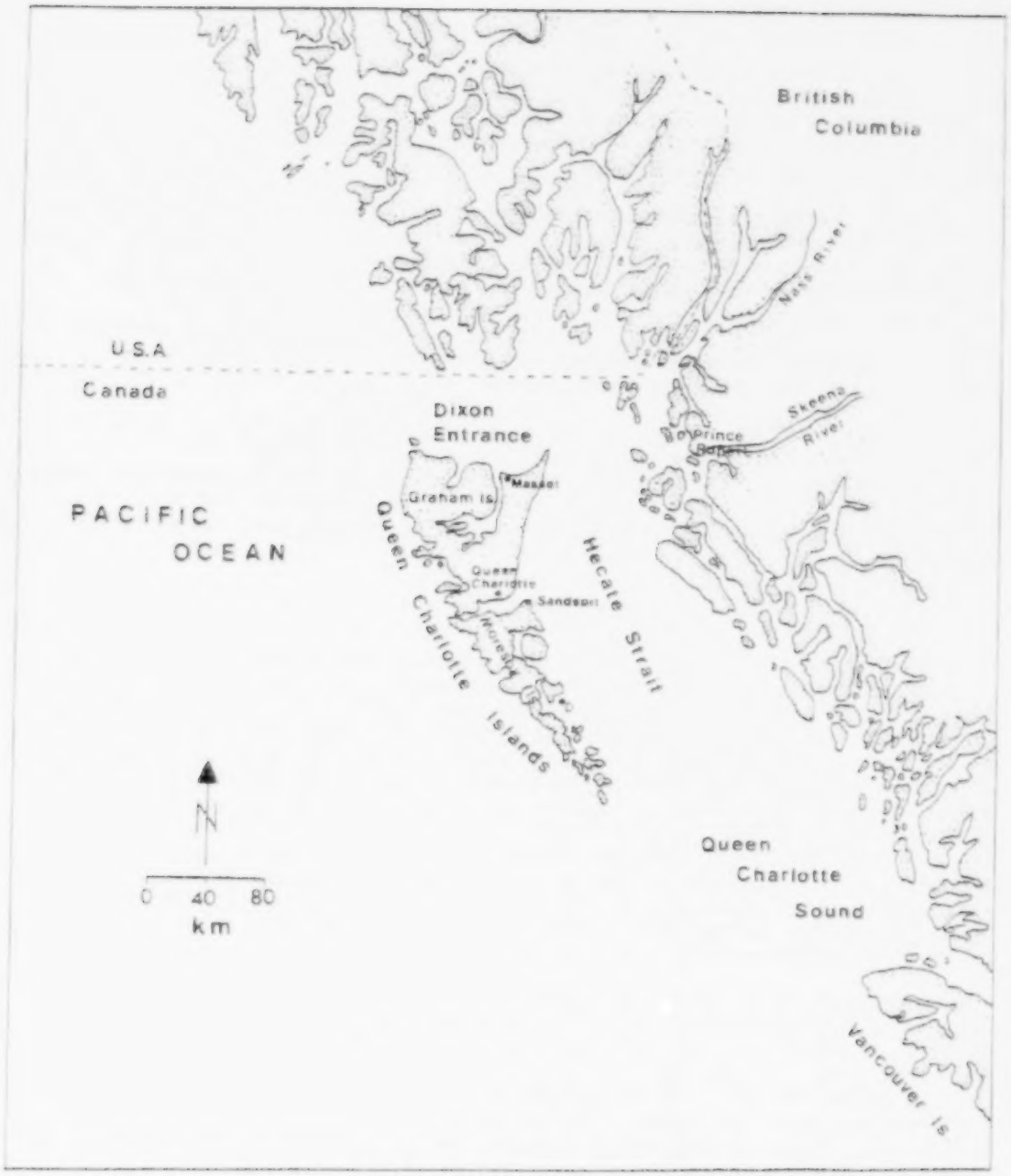

Fig. 1. Geographic location of the Queen Charlotte Islands.

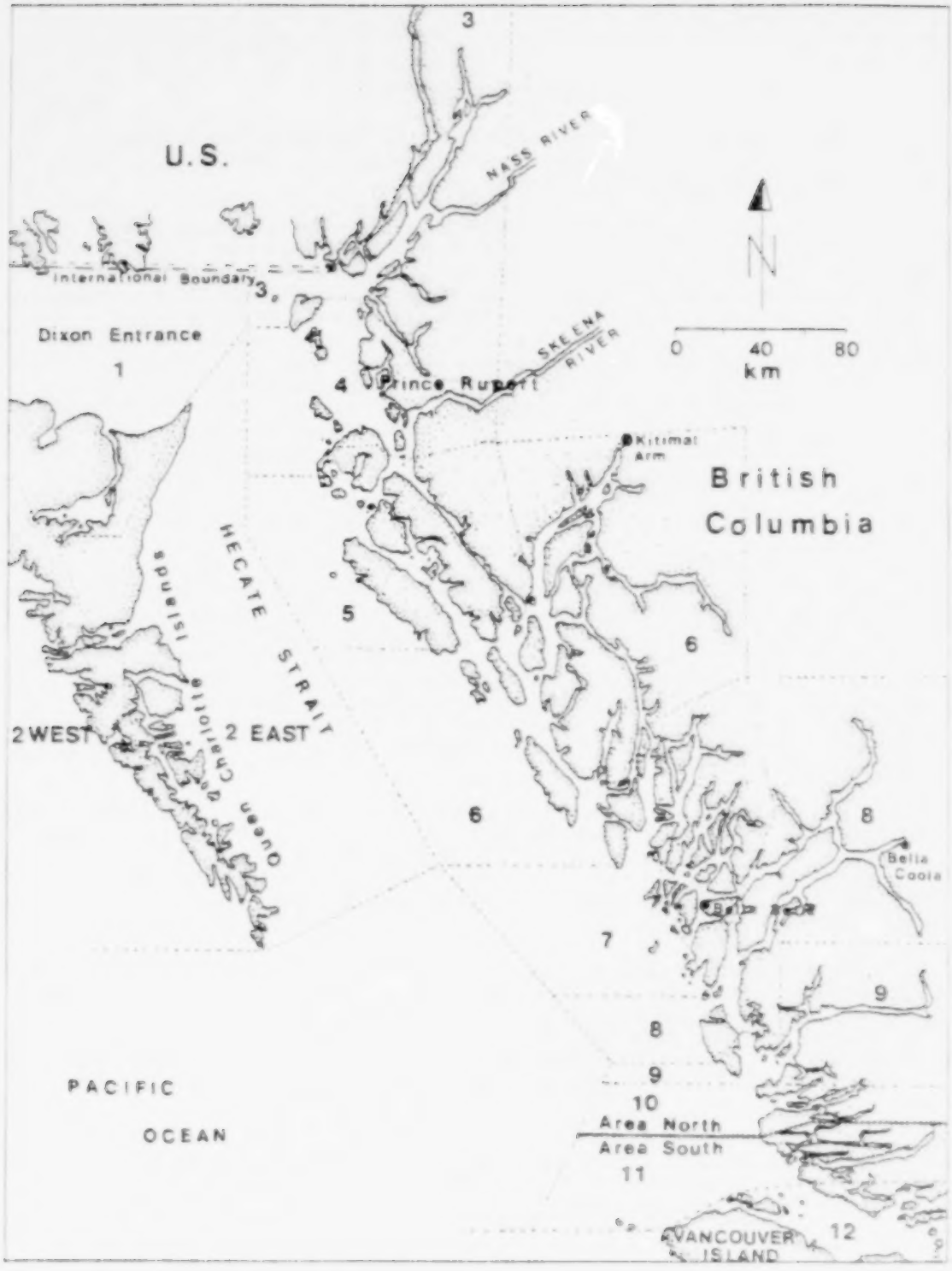

Fig. 2. Location of Statistical Areas in northern B.C.

MANAGEMENT PROCEDURES

A general account of procedures followed by the North Coast Operations Branch of DFO in preparing pre-season fishing plans and undertaking in-season management is provided in the following section.

Pre-season stock expectations and fishing plans are developed by the local fishery officer and area biologist and then reviewed with senior managers. Forecasts of returning stock by species and Statistical Area are based on average rates of return and age class contribution of stocks. Because these data are often quite limited in their accuracy due to inconsistent escapement estimation, uncertain or poorly defined stock composition data in the catch, and insufficient and/or biased age composition data, the tendency has been to apply approximate rates of return to the predominant age class or cycle year escapement for Queen Charlotte Islands salmon stocks. The schedule of fishery openings and closures is based on the amount of surplus stock identified and on the anticipated fishing effort; the latter is calculated by applying an estimated catch per unit of effort (CPUE) to the expected number of gear. Time and area limitations such as one-day fisheries with more limited boundaries are a common means of adjusting the anticipated catch to match the expected surplus.

Following the preparation of fishing expectations, fisheries managers meet with an industry advisory board, the Queen Charlotte Islands Advisory Board, to discuss and finalize fishing expectations. This board currently consists of 12 advisors from the fishing industry and includes representatives from each gear type (seine, gillnet, troll, sport) and the processing sector (B.C.Packers and Prince Rupert Fishermen's Co-operative Association). The advisory process is viewed as an integral part of fisheries management and a valuable means of communication and cooperation between DFO managers and members of the fishing industry.

Final fishing plans and stock expectations are published in the Pacific Region Commercial Fishing Guide (Append. 1-3). It is intended that pre-season forecasts of stock strength and proposed fishing plans, as defined in the Commercial Fishing Guide, serve as a guideline only. These guidelines are subject to change after further consultation with fishermen, or if stocks return differently than expected.

During the salmon season, fishery officers and biologists meet to evaluate each fishery. Catch and gear size and distribution are reviewed daily, along with information such as test fishery indices, tagging vessel catches and escapement estimates which provide a better indication of run size and timing. Based on this information, fishing plans are adjusted and reviewed with the area manager and director prior to implementation.

DATA SOURCES

As discussed above, there are a number of information sources used to assess the in-season salmon runs. For the Queen Charlottes area these are discussed in greater detail below.

1. Commercial catches

Information on commercial catches is obtained by fishery officers during fishing openings. Catches are "hailed" or verbally passed to fishery officers by fishermen who for the most part visually estimate their catches. In many cases, particularly with gillnets, catches may be delivered to other vessels (packers) in the fishing area. The officers may collect catch information from the packers; in these instances the fish are usually weighed and counted individually.

Although methods will vary, fishery officers obtain catches from a proportion of the fleet and then expand this, based on aerial or patrol vessel gear counts, to arrive at a total catch for all gear. Usually this requires that the fishing area be subdivided into several smaller areas determined by factors such as species mix in the catch and gear type. Each area would be sampled separately and the results expanded accordingly to arrive at a total catch. In extended fisheries, the fishery officer may sample a large proportion of the fleet and in many instances will obtain catch estimates from virtually all of the vessels.

2. Charter vessels

In 1982 and 1983, an International Salmon Tagging Program was carried out by the DFO, and the U.S. National Marine Fisheries Service and the Alaskan Department of Fish and Game. The purpose of this program was to determine the exploitation pattern of sockeye and pink salmon (tagged in 1982 only) in northern B.C. and southeastern Alaska. In 1983, seine and gillnet vessels were chartered to tag sockeye in various locations in Areas 1, 3, 4 and 5 and southern S.E. Alaska. Information on catches from seine tagging in Area 1 provided additional data for assessing the salmon runs in this area.

3. Indian Food Fisheries

Indian Food Fisheries are conducted usually by seine and gillnet in various locations in the Queen Charlottes. Information from these catches has been used to assess salmon runs. In 1983, catches reported from the Indian Food Fishery in Rennell Sound provided additional information with which to assess passing sockeye and pink stocks.

4. Escapement

Another source of information used to manage commercial fisheries is escapement. At the start of the fishing season, the salmon run has not yet entered sanctuaries (i.e. holding areas usually adjacent to spawning streams but not open to commercial fishing) or streams, and thus no escapement information is available. However, as the season progresses and fish are observed beyond the limits of the commercial fishery, this information becomes very important. Escapement to date is compared with previous years' escapements in order to evaluate timing and run size and thereby assess fishing plans. In 1983, local escapement information was not applicable on the Queen Charlottes, as the fishery occurred on passing stocks.

Catch and escapement accounts of all five species of Pacific salmon: sockeye (Oncorhynchus nerka), coho (O. kisutch), pink (O. gorbuscha), chum (O. keta) and chinook (O. tshawytscha) are included in this report. All 1983

data are preliminary and may change slightly. All fishing period dates commence at a time of 1800 hours unless otherwise indicated. Additionally, each Statistical Fishing Area is subdivided into management units (M.U.) with specific boundaries, and it is these smaller areas which are actually opened and closed during the season in order to manage the fisheries (Fig. 3). The management units are presently being revised for 1984.

AREA 1

1983 PRE-SEASON FISHING PATTERN

The 1983 salmon expectations and proposed net fishing pattern for the Queen Charlotte Islands, Area 1, are presented in Appendix 1. No net fisheries were anticipated on local stocks as escapements were expected to be less than optimum for all salmon species. Interception net fisheries targeting on passing sockeye and pink stocks of mixed origin were planned for this Area. Due to coastwide concerns for declining chinook stocks, a catch limit of 5,000 chinook was applied to Area 1. The catch limit would permit fisheries to continue to harvest target species, while minimizing the incidental chinook catch.

1983 WEEKLY FISHING SUMMARY

In Area 1, a total of 12 days of salmon fishing was expended in 1983 (Table 1). The salmon interception net fishery commenced on July 10 for 1 day/week and continued thereafter until August 23 at 2 days/week, except for a 1 day opening on July 17. Monitoring of local chum stocks continued until the area was announced closed for the balance of the season on September 30. Table 1 reviews the Area 1 fishing season in terms of weekly pre-season fishing plans, in-season management actions and the rationale for that management. Factors involved in deciding whether to open or extend the fishery included: catch levels of sockeye and pink salmon relative to chinook, co-management with Areas 2W, 3, 4, 5 and 6, Skeena stock considerations (sockeye), gear levels, the chinook catch relative to the 5,000 chinook catch limit, and the number of seasonal fishing days provided to local fishermen.

Preliminary 1983 weekly seine and gillnet commercial catches by species, number of fishing days, and gear levels for Area 1 are presented in Table 2. Catch estimates by species were as follows: 32,376 sockeye, 5,503 coho, 132,867 pink, 2,577 chum and 2,429 chinook. The 1983 net catch estimate for Area 1 of around 176,000 salmon was similar to the 1974 to 1983 mean annual salmon catch of 166,872 (Table 3), with the following catch reductions by species: 41% for sockeye, 53% for coho, 72% for chum, 60% for chinook, and a catch increase of 57% for pink salmon. Salmon catch breakdowns by gear continued to show an increase in the seine portion of the catch which accounted for 98.5% of the total net catch in 1983 (Table 3).

The annual fishing effort in Area 1 from 1954 to 1983 as indicated by seasonal gear levels, number of fishing days and mean weekly effort is presented in Table 4. Preliminary 1983 data on seasonal gear level in Area 1 indicated

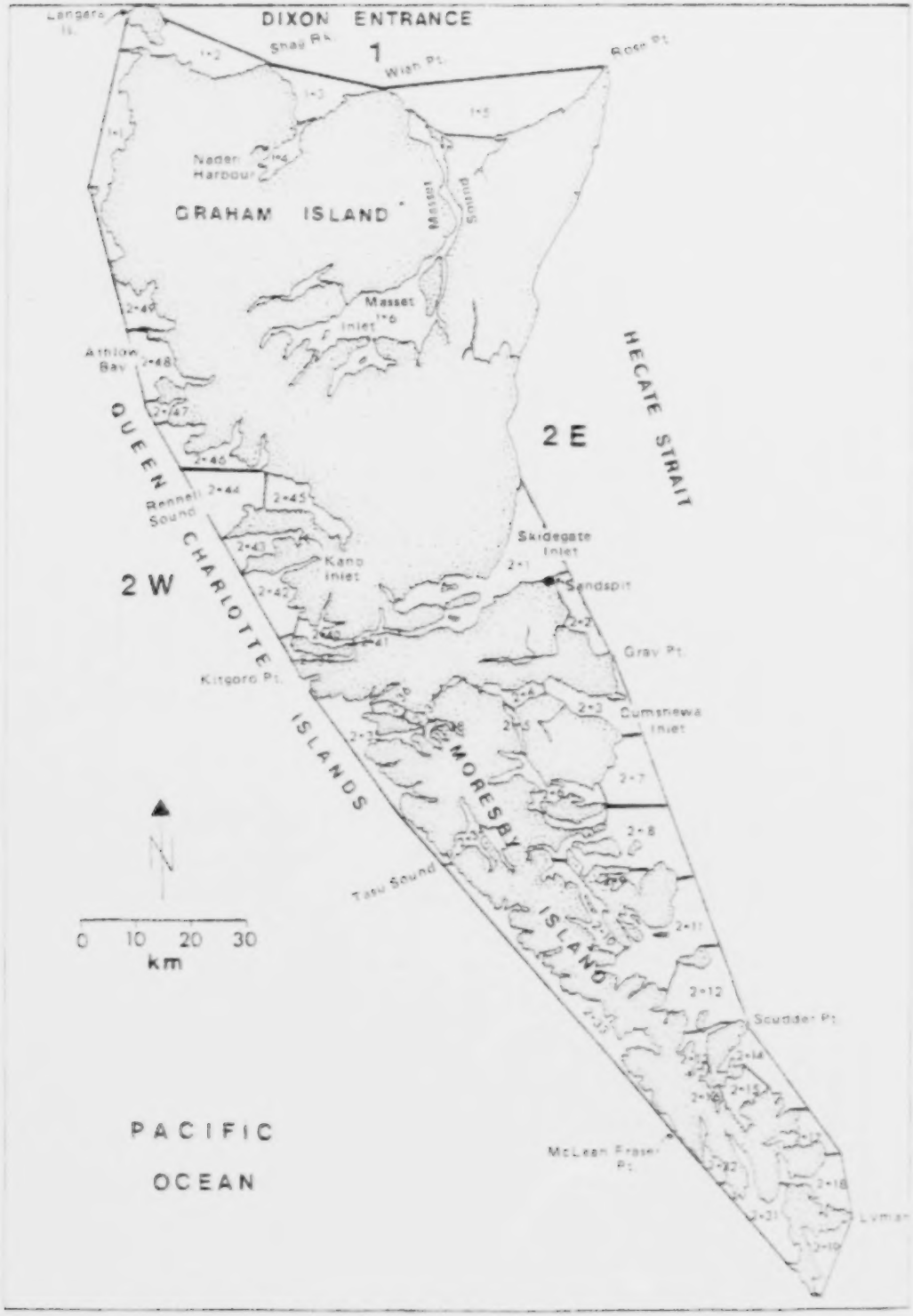

Fig. 3. Area 1, 2W and 2E management units, Queen Charlotte Islands.

Table 1. Weekly Area 1 net fishing season: pre-season plans, in-season management and rationale for management, 1983.

Date	Pre-season fishing plans	In-season management	Rationale
July 3	Open to nets 1 day; ± extension.	No opening	-low Skeena sockeye stock indicated by test fishery -low catch by tagging vessel at Langara Island -Areas 3,4, 5 remained closed.
July 10/11	Open to nets 1 day; ± extension.	Opened 1 day; no extension.	-relatively poor sockeye catches hailed -closed along with Areas 3, 4, 5, 6, 7, 8
July 17/18	Open to nets 1 day; ± extension.	Opened 1 day; no extension.	-relatively poor salmon catches hailed -closed along with Area 2W -Areas 3, 4, 5, 6 remained open
July 24/25	Open to nets 1 day; ± extension.	Opened 2 days.	-relatively poor sockeye and pink catches hailed -coordinated 2-day opening along with Area 2W -consideration given to seasonal fishing days provided to local fishermen -Area 4 closed after 1 day due to low Skeena sockeye stock as indicated by test fishery -Area 3, 4 and 6 remained open for exploitation of pink salmon
July 31/Aug 1	Open to nets 1 day; ± extension.	Opened 1 day; extended 1 day.	-relatively good sockeye catches hailed -coordinated fishery along with Area 2W -Area 4, 5 closed after 1 day due to low Skeena sockeye stock as indicated by test fishery and poor catches -Areas 3, 6 remained open for exploitation of pink salmon
August 7/8 9	Sockeye interception fishery to close	Opened 1 day; extended 1 day.	-moderate sockeye catches hailed -coordinated opening with continuation of Area 2W fishery -consideration given to seasonal fishing days provided to local fishermen -Areas 3, 4, 5, 6 remained open for exploitation of pink salmon despite non-enhanced Skeena sockeye concerns (Skeena River Salmon Management Committee decision) -low chinook catch to date -low gear
August 14/15 16	Sockeye interception fishery to close.	Opened 1 day; extended 1 day.	-moderate sockeye and pink catches hailed -low chinook catch to date -low gear -consideration given to fishing opportunity provided to local fishermen -co-management with Areas 3, 4, 5, 6 which remained open for exploitation of pink salmon
August 21/22 23	Sockeye interception fishery to close.	Opened 1 day; extended 1 day.	-relatively poor sockeye and pink catches hailed -low chinook catch to date -low gear -consideration given to fishing opportunity provided to local fishermen -co-management with Areas 3, 4, 5, 6 which remained open for exploitation of pink salmon.

Table 2. Daily Area 1 seine and gillnet hail catches by species, number of fishing days, and gear, 1983[a].

Date	No. days fishing	No. gear	Sockeye	Coho	Pink	Chum	Chinook
SEINE							
July 10-11	1	17	8,936	2,154	9,924	217	240
July 17-18	1	26-23	5,736	1,728	15,648	60	504
July 24-25		9-2	1,615	250	1,820	75	90
26	2	3	475	215	1,800	0	41
July 31-Aug. 1		1-3	5,250	1,050	3,120	1,050	51
Aug. 2	2	18	5,742	540	4,860	612	180
Aug. 7-8		8-5	5,198	161	1,763	69	207
9	2	4	3,880	74	820	18	55
Aug. 14-15		2	1,600	100	7,200	0	150
16	2	2	1,900	100	8,700	10	170
Aug. 21-22		2	1,450	80	2,606	50	270
23	2	6	800	25	2,350	40	240
Total	12	65	42,582	6,477	60,611	2,201	2,198
(updated preliminary catches based on sales slips)	-	-	(31,349)	(4,671)	(132,172)	(2,307)	(2,392)
GILLNET							
July 10-11	1	3	357	84	15	303	15
(updated preliminary catches based on sales slips)	-	-	(1,027)	(832)	(491)	(270)	(37)
TOTAL NETS	12	68	42,939	6,561	60,626	2,504	2,213
(updated preliminary catches based on sales slips)	-	-	(32,376)	(5,503)	(132,663)	(2,577)	(2,429)

[a]Hailed catches are subject to change when sales slip catches are processed.

Table 3. Annual commercial salmon catches by species and gear, Area 1, 1954-1983[a]

SOCKEYE

YEAR	SEINE Catch	SEINE % Of total	GILLNET Catch	GILLNET % Of total	NET Catch	NET % Of total	TROLL Catch	TROLL % Of total	TOTAL
1954	52	41.60	42	33.60	98	75.38	31	24.80	125
1955	0	0.00	4	3.15	4	3.15	123	96.85	127
1956	1297	46.84	1398	50.49	2695	97.33	74	2.67	2769
1957	0	0.00	421	62.56	421	62.56	252	37.44	673
1958	1305	20.26	4173	61.48	5548	81.73	1240	18.27	6788
1959	2	0.11	1020	57.53	1022	57.64	751	42.36	1773
1960	196	3.67	5152	91.30	5348	94.77	295	5.23	5643
1961	41	1.42	2583	89.69	2624	91.11	256	8.89	2880
1962	306	1.60	18861	97.45	18967	99.05	182	0.95	19149
1963	276	4.69	5338	90.80	5614	95.49	265	4.51	5879
1964	298	2.66	10632	95.00	10930	97.66	262	2.34	11192
1965	2135	26.94	13005	71.76	26140	98.70	343	1.30	26483
1966	1740	10.77	14265	88.30	16005	99.07	150	0.93	16155
1967	1799	5.46	30263	91.81	32062	97.26	902	2.74	32964
1968	1948	3.93	48324	94.97	50272	98.80	610	1.20	50882
1969	3784	8.34	40639	89.52	44423	97.86	972	2.14	45395
1970	1288	2.20	56462	96.55	57750	98.76	727	1.24	58477
1971	7308	12.84	48481	85.17	55789	98.01	1135	1.99	56924
1972	14045	21.04	51993	77.90	66038	98.95	702	1.05	66740
1973	14770	46.85	16290	51.68	31060	98.53	463	1.47	31523
1974	5015	19.43	11398	44.15	16413	63.58	9403	36.42	25816
1975	9756	28.11	16844	48.54	26600	76.65	8103	23.35	34703
1976	5418	39.74	7417	53.03	12835	91.77	1151	8.23	13986
1977	13234	34.41	23239	60.14	36537	94.55	2087	5.45	38639
1978	4797	73.91	894	13.78	5691	87.69	799	12.31	6490
1979	65288	87.85	4220	5.68	69508	93.52	4813	6.48	74321
1980	46027	59.16	27026	34.74	73053	93.89	4751	6.11	77804
1981	177831	77.75	43065	18.39	219896	96.14	8837	3.86	228733
1982	58655	92.67	890	1.26	59545	93.93	3840	6.07	63385
1983[b]	31340	88.08	1027	2.82	32378	88.90	4044	11.10	36420
1954-83	455	12	3879	64	4234	76	347	24	4581
1964-73	5412	14	32635	84	39947	98	627	2	40674
1974-83	41244	68	13488	28	56237	88	4786	12	60022

COHO

YEAR	SEINE Catch	SEINE % Of total	GILLNET Catch	GILLNET % Of total	NET Catch	NET % Of total	TROLL Catch	TROLL % Of total	TOTAL
1954	10965	5.33	170	0.08	11135	5.41	190497	94.59	205632
1955	6316	1.75	49	0.01	6365	1.76	355968	98.24	362333
1956	2216	0.95	8283	3.55	10499	4.50	222569	95.50	233068
1957	7036	0.91	5476	1.84	8512	2.75	300914	97.45	309426
1958	349	0.20	4704	2.68	5053	2.88	170143	97.12	175196
1959	0	0.00	1526	1.02	1526	1.02	147917	98.98	149443
1960	102	0.08	3169	2.55	3271	2.63	121201	97.37	124472
1961	248	0.12	2600	1.30	2848	1.42	197281	98.58	200129
1962	1306	0.46	15463	5.12	16849	5.58	285211	94.42	302060
1963	2209	0.71	13324	4.28	15524	4.99	295246	95.01	311770
1964	6830	1.95	39688	11.34	46518	13.29	303534	86.71	350052
1965	5393	2.24	37320	15.43	42713	17.73	198242	82.27	240955
1966	1532	1.05	41819	12.44	43351	13.49	290736	86.51	336087
1967	1065	0.48	38469	17.60	37454	18.08	169973	81.92	207367
1968	1416	0.38	88621	24.03	90037	24.41	278811	75.59	368848
1969	541	0.22	39953	16.11	40494	16.32	207536	83.68	248069
1970	1230	0.46	70182	25.01	71472	25.47	209191	74.53	280663
1971	2386	1.02	52306	22.29	54692	23.41	178953	76.59	233645
1972	7731	2.84	54235	19.86	61756	22.71	210223	77.29	271979
1973	917	0.56	1456	0.27	8383	5.03	330672	93.97	339055
1974	1491	0.89	9836	5.88	11327	6.77	156066	93.23	167393
1975	3392	2.65	15697	12.25	19089	14.90	109051	85.10	128140
1976	1400	2.03	2687	4.01	4087	6.09	62974	93.91	67061
1977	2451	2.46	1148	1.15	3599	3.61	95831	96.39	99430
1978	2751	1.93	403	0.35	3154	2.18	141458	97.82	144612
1979	15181	5.31	1184	0.41	16365	5.72	269987	94.28	286352
1980	11472	2.71	16152	3.82	27624	6.53	395446	93.47	423070
1981	10869	5.97	5053	2.78	15922	7.82	187574	92.15	203496
1982	3870	6.33	90	0.06	3960	6.38	146075	93.62	156035
1983[b]	4671	1.31	832	0.23	5503	1.54	352397	98.46	357900
1954-63	2702	1	5476	2	8178	2	233060	97	241247
1964-73	3104	1	46787	17	49891	19	317775	82	367666
1974-83	6360	3	5886	3	12246	6	193375	94	205621

PINK

YEAR	SEINE Catch	SEINE % Of total	GILLNET Catch	GILLNET % Of total	NET Catch	NET % Of total	TROLL Catch	TROLL % Of total	TOTAL
1954	1493836	99.77	1038	0.06	1503614	96.63	5574	3.57	1559188
1955	0	0.00	22	0.13	22	0.13	16708	99.87	16730
1956	109181	66.67	37677	23.01	146858	89.68	16908	10.32	163766
1957	0	0.00	2791	11.48	2791	11.48	22367	88.52	25158
1958	475012	79.03	75680	12.69	550692	92.32	45843	7.68	596535
1959	923	3.86	715	2.99	1638	6.85	22274	93.15	23912
1960	18198	35.84	21913	43.16	40111	79.00	10669	21.00	50779
1961	3981	15.13	1753	6.66	5734	21.79	20578	78.21	26312
1962	54347	25.20	65034	30.18	119441	55.38	96249	44.62	215689
1963	61	0.09	25583	35.90	25644	35.99	45673	64.01	71317
1964	200470	68.55	29577	10.11	230047	78.67	62336	21.33	292383
1965	38951	51.27	11105	14.62	50056	65.88	25919	34.12	75975
1966	1025061	76.69	261967	19.60	1287028	96.29	49523	3.71	1336551
1967	3758	4.31	44213	50.70	47971	55.01	39232	44.99	87203
1968	722406	77.11	103682	11.07	826088	88.18	110719	11.82	936807
1969	1452	2.30	15384	11.44	16795	34.42	32003	65.58	48799
1970	134488	46.49	123154	37.08	257642	77.57	74485	22.43	332127
1971	2805	7.98	45025	92.16	47830	50.04	43869	49.96	91699
1972	154319	48.78	37485	11.84	191804	60.61	124622	39.39	316426
1973	15425	29.25	5925	11.24	21350	40.49	31380	59.51	52730
1974	69304	57.13	7509	6.19	76813	63.32	44524	36.68	121337
1975	16646	26.18	23276	36.49	39922	62.53	23862	37.41	63784
1976	3862	93.72	1482	22.92	5344	82.63	1123	17.37	6467
1977	37535	34.27	5249	4.68	42843	38.07	69663	61.93	112506
1978	17660	21.48	867	0.22	17047	23.70	57445	76.30	74492
1979	126616	52.53	1189	0.58	127205	53.02	112756	46.98	240061
1980	98363	11.98	7925	0.90	105736	12.78	721648	87.22	827382
1981	263763	91.67	14721	5.01	278484	96.77	9351	3.23	287835
1982	10029	24.21	107	0.14	10143	24.36	31465	75.64	41608
1983[b]	132172	80.64	401	0.16	132663	40.70	192545	59.21	325208
1954-63	01104	32	23229	17	104333	49	30263	51	134596
1964-73	330424	41	67444	24	297867	65	50067	35	347934
1974-83	70361	30	6998	7	84459	45	104135	55	188594

CHUM

YEAR	SEINE Catch	SEINE % Of total	GILLNET Catch	GILLNET % Of total	NET Catch	NET % Of total	TROLL Catch	TROLL % Of total	TOTAL
1954	31108	91.46	2266	6.68	33374	98.33	566	1.67	33940
1955	5175	66.41	17	0.28	5192	86.69	797	13.31	5989
1956	12099	70.88	4527	24.85	17426	95.66	790	4.34	18216
1957	51560	89.23	5481	9.58	56541	98.80	684	1.20	57225
1958	3459	35.55	5423	55.73	8882	91.28	848	8.72	9730
1959	1777	79.29	168	7.50	1945	86.79	296	13.21	2241
1960	305	4.95	1757	28.50	2062	33.45	260	12.55	2322
1961	287	19.58	603	54.23	826	73.78	292	26.22	1118
1962	238	6.97	2754	80.63	2704	90.40	317	9.60	3401
1963	308	2.10	4078	29.31	4186	81.41	956	18.59	5142
1964	2565	51.92	6858	41.52	13615	93.45	955	6.55	14570
1965	2267	20.20	7750	69.04	10017	89.24	1208	10.76	11225
1966	3324	42.99	11048	54.63	28172	97.69	245	2.37	28817
1967	4158	16.56	22146	88.21	24166	96.63	841	3.37	25107
1968	941	3.28	24479	93.62	24600	97.38	636	2.62	25236
1969	1227	6.24	13348	92.79	18125	91.83	353	3.97	19478
1970	4262	12.11	28768	85.36	32830	92.87	714	2.13	33544
1971	6148	16.52	30131	81.73	36411	98.38	619	1.70	37030
1972	6868	15.66	41024	88.89	41134	96.55	1162	3.45	34296
1973	20169	56.62	14081	41.76	34250	98.38	561	1.64	34811
1974	5242	24.59	14078	71.10	19320	95.67	864	4.33	20184
1975	3.82	57.19	2873	66.48	11.87	93.67	741	6.33	12170
1976	1389	39.43	1476	53.44	2865	92.89	197	7.17	2762
1977	34.19	55.69	1732	28.20	5171	83.78	1004	16.26	6175
1978	3398	45.03	1943	22.61	5341	62.10	3264	37.90	8605
1979	5312	59.94	852	9.58	6184	69.51	2722	30.49	8906
1980	8430	40.53	2622	12.64	10842	53.75	9326	46.25	20169
1981	2623	48.79	1196	30.55	11668	83.75	2268	16.25	13937
1982	1572	82.53	198	1.33	12451	84.52	2284	15.48	14737
1983[b]	2307	26.39	270	3.44	2677	32.83	6273	67.17	9350
1954-63	01108	32	23229	17	104333	49	30263	51	134596
1964-73	330424	41	67444	24	297867	65	50067	35	347934
1974-83	70361	30	6998	7	84459	45	104135	55	188594

Table 1 (cont'd)

	CHINOOK									TOTAL SALMON								
	SEINE		GILLNET		NET		TROLL			SEINE		GILLNET		NET		TROLL		
YEAR	Catch	% Of total	Catch	% Of total	Catch	% Of total	Catch	% Of total	TOTAL	Catch	% Of total	Catch	% Of total	Catch	% Of total	Catch	% Of total	TOTAL
1954	3	0.01	146	0.53	149	0.54	27310	99.46	27459	191464	44.83	3652	0.86	195116	45.68	237378	54.32	432494
1955	0	0.00	2	0.01	2	0.01	21779	99.99	21781	11691	2.80	94	0.02	11785	2.83	405105	97.17	417210
1956	3	0.02	46	0.24	49	0.26	18827	99.74	18876	425596	28.76	54921	11.107	172527	40.65	259168	57.35	436695
1957	0	0.00	52	0.27	52	0.27	19482	99.73	19534	54096	12.38	14731	2.28	68827	15.65	368699	84.35	437126
1958	62	0.19	161	0.51	223	0.69	31511	99.31	31812	408255	58.55	90141	10.39	530396	69.54	241984	30.46	772380
1959	0	0.00	41	0.13	41	0.13	31348	99.87	31389	2702	1.29	3470	1.66	6172	2.95	202404	97.05	208576
1960	16	0.08	113	0.50	137	0.57	23803	99.43	23940	18619	9.60	32110	15.52	50729	24.51	156219	75.49	206948
1961	1	0.00	39	0.11	40	0.11	35216	99.89	35256	4408	1.69	2578	2.95	6986	4.56	253623	95.46	260609
1962	65	0.37	169	0.97	234	1.34	17206	98.66	17404	56934	10.10	132141	10.32	189075	28.42	399208	71.58	558283
1963	5	0.02	165	0.78	170	0.81	20920	99.19	21090	2550	0.64	46808	11.68	49358	12.32	351060	87.68	400418
1964	26	0.06	529	1.15	555	1.21	45274	98.79	45829	215189	30.13	96476	13.51	311665	43.64	402703	56.36	714368
1965	1879	4.33	528	1.23	2407	5.62	40490	94.38	42897	55625	14.00	75798	19.07	131323	33.04	266412	66.96	397735
1966	237	0.49	717	1.21	954	1.61	58180	98.39	59134	1023894	58.76	330616	18.68	1370510	77.45	399066	22.55	1769576
1967	217	0.41	1509	2.82	1726	3.23	51731	96.77	53457	10937	2.69	132582	32.65	143519	35.34	262579	64.66	406098
1968	611	1.06	1878	3.30	2509	4.36	55019	95.64	57528	727373	50.56	265769	18.48	993136	69.02	445906	30.98	1439042
1969	648	1.24	1569	3.51	2867	4.75	51490	95.25	56187	9752	2.01	131752	26.30	140504	28.31	354154	71.69	494658
1970	222	0.28	2737	3.48	2959	3.77	75592	96.23	78541	141350	18.04	281303	35.91	422653	53.95	361499	46.05	784152
1971	234	1.48	2156	2.98	2390	4.07	69985	95.93	72455	24483	4.39	175243	31.47	199732	35.87	357991	64.13	557723
1972	857	1.42	1297	2.14	2154	3.56	58376	96.44	60530	109352	24.22	186098	24.27	295450	48.39	317615	51.61	766741
1973	270	0.49	372	0.67	642	1.15	55087	98.85	55729	62151	10.65	52774	15.91	114925	24.47	218613	65.53	333538
1974	4137	5.63	800	1.04	5137	6.67	71984	93.33	76998	85889	20.68	44128	10.63	130017	31.30	285710	68.62	415828
1975	4383	4.27	2730	2.66	7113	6.92	95476	93.07	102589	37459	10.98	66620	19.53	104079	30.49	237233	69.51	341312
1976	1480	2.78	519	0.97	1999	3.75	51265	96.25	53264	13249	9.23	12581	8.76	25830	18.00	117610	81.31	143440
1977	9611	9.66	700	1.31	5811	9.97	47952	90.03	53263	61390	19.97	31966	10.37	93356	30.34	214157	69.66	307413
1978	2187	2.92	77	0.10	2264	3.02	73122	96.92	75386	21775	7.28	1408	0.91	23183	8.09	263628	91.92	286811
1979	6455	9.98	280	0.43	6755	10.41	58134	89.59	64889	218172	22.46	7795	1.14	225967	23.54	447912	66.46	673879
1980	6214	8.05	774	1.01	6769	9.06	67774	90.94	74702	163744	12.99	58529	4.13	222273	17.12	1003435	82.88	1207208
1981	13356	15.86	748	0.89	14104	16.75	70850	83.25	84204	476313	43.63	69283	6.35	545596	50.03	544995	49.97	1090591
1982	9329	7.87	40	0.02	9369	7.88	109447	92.12	118816	108015	25.30	1273	0.30	109288	25.60	317829	74.40	427196
1983[b]	2932	2.37	37	0.04	2420	2.40	98607	97.60	101088	173891	20.87	2667	0.32	176648	21.19	656020	78.81	832668
AVERAGE	1954 63	16	0	74	0	139	0	24011	100	24020	18790	17	35386	0	130375	25	289939	75	413345
	1964 73	581	1	1371	2	1952	3	56264	97	56216	241071	22	171647	24	418517	47	335524	53	754442
	1974 83	6406	2	807	1	8123	3	74388	92	80510	132410	20	29462	6	100873	27	429654	73	660325

[a] From B.C. Catch Statistics.

[b] Preliminary catch estimates based on sales slips.

Table 4. Annual salmon fishing effort by gear, Area 1, 1954-1983.

YEAR	NO. GEAR			NO. DAYS FISHING		MEAN EFFORT/ WEEK FISHING[a]		
	Seine	Gillnet	Troll	Seine	Gillnet	Seine	Gillnet	Troll
1954	134	30	8780	44	30	21.5	[illegible]	[illegible]
1955	27	4	10032	14	13	[illegible]	[illegible]	[illegible]
1956	156	468	8131	45	[illegible]	17.0	[illegible]	[illegible]
1957	70	330	9379	25	75	[illegible]	[illegible]	[illegible]
1958	272	690	8675	47	84	[illegible]	[illegible]	[illegible]
1959	4	85	8007	[illegible]	89	[illegible]	[illegible]	[illegible]
1960	52	364	8181	20	65	[illegible]	[illegible]	[illegible]
1961	5	234	9827	14	80	[illegible]	[illegible]	[illegible]
1962	40	972	9379	55	76	[illegible]	[illegible]	[illegible]
1963	69	727	7985	31	64	[illegible]	[illegible]	[illegible]
1964	[illegible]	1024	9963	40	78	[illegible]	[illegible]	[illegible]
1965	[illegible]	674	9337	45	127	[illegible]	[illegible]	[illegible]
1966	388	1359	8544	52[illegible]	87.5	[illegible]	[illegible]	[illegible]
1967	[illegible]	1316	9472	36	[illegible]	[illegible]	[illegible]	[illegible]
1968	80	2053	10835	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1969	[illegible]	1733	11592	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1970	109	2412	13848	36	54	[illegible]	[illegible]	[illegible]
1971	80	2279	[illegible]101	[illegible]3.3	[illegible]1.5	[illegible]	[illegible]	[illegible]
1972	164	2046	9780	42	50	[illegible]	[illegible]	[illegible]
1973	[illegible]	708	8806	25	47	[illegible]	[illegible]	[illegible]
1974	[illegible]	650	9296	30	[illegible]	[illegible]	[illegible]	[illegible]
1975	216	1050	11526	39	55	[illegible]	[illegible]	[illegible]
1976	[illegible]	301	8659	20	24	18	[illegible]	[illegible]
1977	[illegible]	446	8744	30	44	[illegible]	[illegible]	[illegible]
1978	[illegible]	35	11195	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1979	[illegible]	79	13896	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1980	169	589	14109	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1981	[illegible]	156	9471	21	[illegible]	[illegible]	[illegible]	[illegible]
1982	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1983[b]	[illegible]	[illegible]	n/a[c]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Avg. 1954-82	[illegible]	383	8821	30	63	[illegible]	[illegible]	[illegible]
1954-73	[illegible]	1014	10122	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1974-83	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[a] Total No. gear/No. weeks fishing.
[b] Preliminary effort estimates.
[c] Not available at time of printing.

65 seines and 3 gillnets which was well below the 1974 to 1983 averages of 159 seines and 340 gillnets. Similarly, the number of fishing days and mean weekly effort in 1983 were well below the previous 10-year averages (Table 4).

ESCAPEMENTS, AREA 1

The annual salmon escapements to Area 1 by species for the period 1947 to 1983 are presented in Table 5. The 1983 escapements for all salmon species were below the optimum levels and below the previous 10-year averages as follows: sockeye escapement of 19,500 (28% reduction); chinook, 600 (30% reduction); coho, 20,600 (62% reduction); chum, 25,225 (21% reduction); and pink, 2,130 (40% reduction). As was forecast, these stocks were insufficient to warrant any commercial fisheries and the majority of the 1983 catch in Area 1 was comprised of migrating stocks.

REVIEW OF PAST AND PRESENT FISHERIES, AREA 1

Assessment of the Area 1 salmon interception net fisheries in terms of historical catch trends, comparison between the pre-season and actual fishing strategies, stock composition, management, and fleet control is provided in the following section.

Since 1951, when Area Histories became available as documents of salmon fishing and escapement, net fisheries have typically occurred in Area 1 for exploitation of sockeye, coho, pink and chum salmon. Chinook salmon were only incidentally taken in small quantities by nets, the major portion of catch of this species coming from the troll fleet (Table 3). Odd-year pink catches were largely comprised of passing stocks with a prominent troll component and increasing seine component in recent years. Net fisheries targeting on chum and even-year pink salmon occurred more terminally while sockeye were intercepted largely in outside waters. "It is presumed that a very large percentage of the sockeye caught were transient salmon, probably those proceeding to the Skeena or Grenville-Principe areas" (Dept. Fisheries and Oceans MS 1956). "Terminal sockeye catches were reserved almost exclusively for the Indian Food Fishery" (Dept. Fisheries and Oceans MS 1960).

The timing of the sockeye catch ranged from late May to early October, with the majority of catch occurring in the late June to mid-to-late July. The interception gillnet catch escalated in the mid-1960's through early 1970's with intensified effort on sockeye by local fishermen. However, by 1973, the seine component of the sockeye catch increased with respect to the gillnet share, and has risen steadily in more recent years (Table 3). In 1981, peak interception catches of sockeye, pink and chinook salmon were realized by seines in Area 1 despite a Departmental policy to limit interception net fisheries, such as Area 1, to 2 days/week. Large stock returns of Skeena sockeye and of pink salmon from Skeena and Fraser rivers and southeast Alaska largely accounted for the record catches that year. Because of increasing concerns for coastal chinook salmon, a catch limit of 5,000 net-caught chinook was imposed in 1982 for Area 1 in addition to Area 2W. At the same time, an in-season two-week troll closure was initiated in North Coast waters as a preliminary means of limiting the troll exploitation on chinook.

Table 6. Annual spawning escapements for sockeye, chinook, coho, chum and pink, Area 1, 1947-1983.

Year	Sockeye	Chinook	Coho	Chum	Pink
1947	10700	1500	13470	43220	1800
1948	11000	750	47900	40100	1736000
1949	NA[a]	NA	4750	20400	1500
1950	NA	NA	16500	11000	2[illegible]000
1951	22000	NA	44300	115000	3500
1952	7400	1500	12050	50900	944400
1953	5000	NA	1200	121475	3500
1954	1500	NA	10400	30750	301200
1955	NA	NA	5050	22850	NA
1956	3500	750	19[illegible]	3700	446000
1957	3050	1500	13500	146775	1810[illegible]
1958	59525	NA	9150	21500	402800
1959	12500	3500	20200	18025	1500
1960	13250	750	14150	15125	96[illegible]
1961	12350	3500	23850	28025	4000
1962	42100	1500	35400	14[illegible]	1[illegible]5[illegible]
1963	10250	NA	22[illegible]	19700	2[illegible]5[illegible]
1964	25500	7500	60200	29025	441[illegible]
1965	10250	15000	77850	101000	13850
1966	5425	7500	20925	9325[illegible]	1[illegible]6[illegible]
1967	6525	1500	23925	21[illegible]	150
1968	20400	1500	10250	37500	1335500
1969	40500	1500	6625	45000	1[illegible]
1970	26500	800	24050	24600	40[illegible]
1971	16500	500	14335	44500	905[illegible]
1972	17500	1000	28125	8500	324900
1973	16000	900	58350	50000	4000
1974	29000	1000	97100	41800	2[illegible]1[illegible]00
1975	16500	1500	47000	53050	3750
1976	40900	700	152500	53300	2[illegible]0[illegible]0
1977	28750	600	55400	54300	4900
1978	24800	800	81[illegible]0	54200	21[illegible]00
1979	20650	4[illegible]	34750	31[illegible]	1[illegible]3
1980	34400	600	17580	14458	2[illegible]0[illegible]9[illegible]
1981	23000	800	13000	36100	3600
1982	28500	1400	15250	70800	11[illegible]3[illegible]
1983	19300	900	24000	25[illegible]	3[illegible]2[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible] [illegible]
Avg. 1947-[illegible]	1[illegible]2[illegible]	1[illegible]4	17[illegible]	4[illegible]7[illegible]	1[illegible]4[illegible]
[illegible]-[illegible]	[illegible]7[illegible]	[illegible]7[illegible]	1[illegible]4[illegible]	[illegible]1[illegible]	[illegible]	[illegible]
1974-83	25950	850	54[illegible]	4[illegible]0[illegible]	[illegible]	[illegible]

[a]Not available.

Assessment of 1983 salmon fishery, Area 1

In 1983, the pre-season management objective of limiting the chinook net catch to less than 5,000 pieces was maintained in Area 1. The net fishery was extended by 3 weeks (6 days) beyond the pre-season fishing plan partially because of the relative low chinook catch and in order to provide extended fishing opportunity to the few local seiners that were fishing the area. Although late-run Skeena sockeye stock concerns were expressed at a mid-season meeting of the Skeena River Salmon Management Committee and its Advisory Board, fishing continued in Area 1 where interceptions of both Skeena and Fraser sockeye were known to occur. This coincided in part with the Skeena River Advisory Board decision not to forego completely pink salmon surpluses but to balance these against the late run Skeena sockeye concerns (Kadowaki 1983).

The sockeye age and stock composition of the 1983 catch will be derived at a later date from scale samples, tissue samples (electrophoretic analysis), and tag recovery results of the International Tagging Program. The program was conducted jointly between Canada and the U.S. and a portion of the Canadian sampling occurred at Langara Island in Area 1 (Fig. 3). Preliminary 1982 results of the tagging program indicated a seasonal average sockeye stock composition of 75% Skeena, 13% Nass, and 12% Alaskan origin, with a peak Skeena sockeye stock composition of 89% during the month of July (Riddell 1983). Although contributions of the small northern Queen Charlotte Islands sockeye populations, namely Mercer, Naden and Ain River sockeye, were not measured in 1982, presumably minor catch components of these stocks also occurred as their escapement timing overlapped with the onset of the interception net fishing.

The relatively low sockeye interception catch in Area 1 in 1983 reflected in part the slightly below average Skeena River sockeye abundance of 1.6 million (R. Kadowaki, DFO, pers. comm.). Additionally, the warmer waters of the El Nino may have influenced other passing stocks, including Fraser River sockeye and pink salmon, to migrate in slightly different patterns so as to "miss" interception points in Area 1.

Although no stock composition data were collected from the Area 1 pink salmon catch, timing information, stock strength data, and previous tagging distribution studies indicated that the catch was most likely comprised of stocks originating from the Nass and Skeena rivers, southeast Alaska and the Fraser River.

In terms of stock management, the 1983 Area 1 sockeye interception net fishery exploited an estimated 2 % of the Skeena River sockeye stock. The extension of the fishery through mid-August may have augmented late-run Skeena sockeye concerns only slightly since the majority of that run would have likely passed through the interception area at the onset of the extension. Late sockeye interceptions were small and probably of Fraser River origin, and no sockeye conservation concerns were anticipated here for 1983.

Although the stock composition of the pink salmon catch was less well-defined, surpluses were expected for all stocks thought to be intercepted in

Area 1, excepting the small, local, off-cycle year pink salmon run. The timing of this minor run in early-to-mid-August would have made it vulnerable to exploitation in the extended portion of the Area 1 net fishery; however, the low stock proportions relative to the major passing stocks in the area and the estimated low exploitation rate would have minimized harvest impacts.

Fleet management of the area coincided with that of one or more of Areas 2W, 3, 4, 5 and 6, thus maintaining a moderate balance of gear spread across the North Coast salmon fishing areas. The low gear exhibited in Area 1 in 1983 was a consequence of the relatively poor passing stock abundance in the area.

AREA 2W

1983 PRE-SEASON FISHING PATTERN

As in Area 1, no net fisheries were anticipated on local stocks in Area 2W as escapements were expected to be less than optimum for all salmon species (Append. 2). Interception net fisheries targeting on passing sockeye and pink stocks of mixed origin were planned for this Area. After meeting with the Advisory Board in spring of 1983, the option of fishing 2 days/week for 3 weeks during the peak abundance of passing sockeye and pink stocks was selected. Due to coastwide concerns for declining chinook stocks, a catch limit of 5,000 chinook was applied to Area 2W. Again as in Area 1, the catch limit would permit fisheries to continue to harvest target species while minimizing the incidental chinook catch. In the past, chinook catches had been increasing in this area and thus the catch limit was designed to discourage vessels from fishing at sites of high chinook concentration.

1983 WEEKLY FISHING SUMMARY, AREA 2W

In Area 2W, a total of nine days of salmon fishing was expended in 1983 (Table 6). The salmon interception net fishery commenced on July 17 with a 1-day opening, continued for two weeks with 3-day opening/week, and ended with a 2-day opening on August 7. Monitoring of local chum stocks continued until the area was announced closed for the balance of the season on September 30. Table 6 reviews the Area 2W fishing season in terms of weekly pre-season fishing plans, in-season management actions and the rationale for that management. Factors involved in deciding whether to open or extend the fishery included: catch levels of sockeye and pink salmon relative to chinook, co-management with Areas 1, 3, 4, 5 and 6, international policy, gear levels, fishing conditions, the chinook catch relative to the 5,000 chinook catch ceiling, Fraser stock considerations (sockeye), and the number of seasonal fishing days provided to local fishermen.

Preliminary 1983 weekly seine and gillnet commercial catches by species, number of fishing days and gear levels for the Area 2W are presented in Table 7. Catch estimates by species were as follows: 200,592 sockeye, 4,341 coho, 288,037 pink, 6,351 chum and 3,698 chinook. The 1983 net catch estimate for Area 2W of around 503,000 salmon was the fourth highest since 1954 (Table 8). The 1983 sockeye catch estimate of 200,592 was the highest on

Table 6. Weekly Area 2W net fishing season: pre-season plans, in-season management and rationale for management, 1983.

Date	Pre-season fishing plans	In-season management	Rationale
July 17/18	Open to nets 2 days.	Opened 1 day; no extension.	-poor salmon catches hailed -low sockeye catch relative to chinook -closed along with Area 1
July 24/25 26 27	Open to nets 2 days.	Opened 2 days; extended 1 day.	-high sockeye and pink catches hailed -low to moderate gear -low chinook catches -consideration given to seasonal fishing opportunities provided to nets in the North Coast. -management policy in previous years to limit interception net fisheries to 2 days/week -relatively good fishing conditions -co-management with Area 3; other North Coast areas and Johnstone Strait closed after 1-2 days
July 31/Aug.1 Aug. 2 Aug. 3	Open to nets 2 days.	Opened 2 days; extended 1 day.	-relatively good sockeye, fair pink catches hailed -moderate gear -moderate fishing conditions -low chinook catch to date -consideration given to seasonal fishing opportunities provided to nets in the North Coast -co-management with Area 3; other north coast seine fisheries closed after 1-2 days
August 7/8 9	Sockeye interception fishery to close.	Opened 1 day; extended 1 day	-low chinook catch to date -consideration given to seasonal fishing opportunities provided to nets in the North Coast -fair sockeye catches, moderately good pink catches hailed -low gear -co-management with Areas 1, 3, 4, 5, 6 -Fraser River stock concerns (sockeye)

Table 7. Daily Area 2I seine and gillnet hail catches by species, number of fishing days, and gear, 1983[a].

Date	No. days fishing	No. gear	Sockeye	Coho	Pink	Chum	Chinook
SEINE							
July 17-18	1	8-3	61	69	9	12	104
July 24-25		4-14	33,500	465	50,850	1,035	461
26		55	27,162	1,435	42,023	680	429
27	3	55	33,259	922	29,894	1,322	448
July 31-Aug. 1		43-37	85,302	2,465	29,920	1,387	364
Aug. 1		37	53,603	1,758	23,386	1,208	444
3	3	41	33,015	1,100	15,093	659	355
Aug. 7-8		11-12	18,200	104	34,200	58	402
9	2	14	6,140	91	5,890	28	472
Total	9	93	290,242	8,409	231,265	6,389	3,479
(updated preliminary catches based on sales slips)	-	-	(200,592)	(4,341)	(288,037)	(6,351)	(3,698)
GILLNET	0	0	0	0	0	0	0
TOTAL NETS	9	93	290,242	8,409	231,265	6,389	3,479
(updated preliminary catches based on sales slips)	-	-	(200,592)	(4,341)	(288,037)	(6,351)	(3,698)

[a]Hailed catches are subject to change when sales slip catches are processed.

Table 8. Annual commercial salmon catches by species and gear, Area 2W, 1954-1983[a].

SOCKEYE

YEAR	SEINE Catch	SEINE % Of total	GILLNET Catch	GILLNET % Of total	NET Catch	NET % Of total	TROLL Catch	TROLL % Of total	TOTAL
1954	40	100.00	0	0.00	40	100.00	0	0.00	40
1955	4381	100.00	0	0.00	4381	100.00	0	0.00	4381
1956	322	56.99	243	43.01	565	100.00	0	0.00	565
1957	5178	79.83	1306	20.13	6483	99.95	3	0.05	6486
1958	0	0.00	2973	99.97	2973	99.97	1	0.03	2974
1959	80	9.61	751	90.27	831	100.00	0	0.00	831
1960	427	20.44	1661	79.51	2088	99.95	1	0.05	2089
1961	0	0.00	1526	100.00	1526	100.00	0	0.00	1526
1962	1805	40.14	2729	59.69	4534	99.83	8	0.17	4542
1963	1	0.00	3203	99.78	3203	99.78	7	0.22	3210
1964	1	0.07	1073	99.17	1074	99.26	8	0.74	1082
1965	5	0.96	512	98.46	517	98.46	8	1.52	525
1966	4	0.20	2032	99.61	2036	99.80	4	0.20	2040
1967	1	0.19	508	97.32	509	97.51	13	2.49	522
1968	1408	72.58	527	27.16	1935	99.74	5	0.26	1940
1969	25	1.93	1258	96.69	1283	98.62	18	1.38	1301
1970	38	8.78	270	62.36	308	71.13	125	28.87	433
1971	153	6.61	2171	93.84	2332	98.65	32	1.35	2364
1972	348	7.45	4321	92.47	4669	97.82	102	2.18	4671
1973	2	0.10	2027	99.46	2029	99.56	9	0.44	2038
1974	22227	81.43	1001	3.67	23228	85.09	4063	14.91	27291
1975	5931	87.60	810	12.19	6822	99.80	14	0.20	6836
1976	4543	87.23	632	12.15	5175	99.40	27	0.52	5202
1977	42999	99.17	275	0.63	43265	99.80	86	0.20	43351
1978	11358	86.81	1594	12.11	12952	98.52	191	1.48	13082
1979	179698	99.29	1001	0.55	180691	99.84	291	0.16	180982
1980	25608	68.90	2459	6.53	28067	97.33	771	2.67	28838
1981	56124	96.35	580	0.99	56804	97.34	1555	2.66	58359
1982	5409	56.09	660	3.93	10069	66.02	6707	39.98	16776
1983[b]	200402	00.00	0	0.00	200502	00.00	407	0.20	200000
AVERAGE 1954-83	1226	41	1309	59	2535	100	2	0	2617
1954-73	199	10	1460	86	1659	96	22	4	1681
1974-83	66803	80	953	5	68700	93	1428	0	68172

COHO

YEAR	SEINE Catch	SEINE % Of total	GILLNET Catch	GILLNET % Of total	NET Catch	NET % Of total	TROLL Catch	TROLL % Of total	TOTAL
1954	14710	91.50	38	0.24	14748	91.74	1328	8.26	16076
1955	3263	69.28	125	2.58	3388	71.86	1326	28.14	4714
1956	3458	61.10	1	0.02	3459	61.12	2198	38.88	5658
1957	696	17.76	0	0.00	696	17.76	3222	82.24	4918
1958	118	3.86	248	15.69	366	23.55	1185	76.05	1561
1959	0	0.00	20	0.80	20	0.80	2469	99.12	2495
1960	166	5.99	0	0.00	166	5.99	2606	94.10	2772
1961	68	2.07	25	0.76	93	2.83	3190	97.17	3283
1962	0	0.00	118	0.58	118	0.58	20196	99.50	20314
1963	0	0.00	0	0.00	0	0.00	17371	100.00	17371
1964	3232	15.70	269	1.31	3701	16.81	16711	83.19	22412
1965	3242	22.84	1973	7.56	6315	30.40	9870	69.60	16193
1966	4238	19.42	630	2.82	4968	22.24	17372	77.76	22349
1967	1693	13.27	241	1.69	2134	14.96	12131	85.04	14265
1968	1502	12.08	786	6.32	2288	18.40	10145	81.60	12433
1969	958	9.06	180	1.72	1138	10.80	9333	89.20	10463
1970	10024	93.74	644	3.20	10668	52.93	9486	47.07	20154
1971	3096	23.45	107	0.81	3203	24.26	10002	75.74	13205
1972	3162	21.20	963	6.46	4125	27.66	10797	72.34	14922
1973	810	15.38	267	5.07	1077	20.44	4191	79.56	5268
1974	1441	11.47	505	4.02	1946	15.50	10621	84.50	12568
1975	2738	32.39	1803	21.33	4541	53.73	3911	46.27	8452
1976	4.81	26.98	343	2.16	4624	29.14	11244	70.86	15868
1977	3086	42.87	327	3.61	4213	46.48	4854	53.52	9067
1978	6437	16.31	72	0.18	6509	16.49	32956	83.51	39465
1979	25214	48.87	177	0.34	25391	49.22	26195	50.78	51586
1980	12804	19.44	831	1.02	16635	20.46	64614	79.54	81249
1981	7430	12.45	252	0.43	7687	12.88	52001	87.12	59688
1982	3856	9.48	186	0.46	4042	9.93	36645	90.07	40687
1983[b]	4341	10.24	0	0.00	4341	10.24	38140	89.78	39481
AVERAGE 1954-83	3268	26	580	3	3835	31	5871	72	9836
1954-73	3255	20	514	4	3761	24	11204	76	14973
1974-83	7543	34	650	3	7093	27	26722	73	34715

PINK

YEAR	SEINE Catch	SEINE % Of total	GILLNET Catch	GILLNET % Of total	NET Catch	NET % Of total	TROLL Catch	TROLL % Of total	TOTAL
1954	1036230	100.00	31	0.00	1036569	100.00	11	0.00	1036580
1955	7	9.72	2	2.78	9	12.50	63	87.50	72
1956	82983	99.92	0	0.00	82983	99.97	28	0.03	84011
1957	2407	98.85	0	0.00	2407	98.85	29	1.15	2516
1958	186021	96.84	2575	2.70	186596	99.82	329	0.18	186925
1959	3	0.00	2	0.04	2	0.04	53	96.36	55
1960	164705	99.83	120	0.07	164825	99.96	61	0.04	164886
1961	0	0.00	0	0.00	0	0.00	24	100.00	24
1962	8	0.02	61	0.19	69	0.09	2561	99.91	2630
1963	0	0.00	0	0.00	0	0.00	1257	100.00	1257
1964	1369	45.60	31	1.00	1379	46.68	1578	53.32	2957
1965	6	0.60	4	0.40	10	1.00	990	99.00	1000
1966	199272	99.19	5	0.00	199276	99.19	1628	0.81	200904
1967	11949	82.74	53	0.39	11532	84.13	2170	15.87	13702
1968	226779	98.68	388	0.15	227167	98.84	2670	1.16	229836
1969	116	0.74	15	1.43	135	10.17	1192	89.83	1327
1970	314101	98.32	2423	0.76	316604	99.08	2947	0.92	319551
1971	14	0.89	14	0.84	28	1.67	1642	98.33	1670
1972	642401	98.42	7817	1.20	650218	99.62	2474	0.38	652692
1973	2	0.37	3	0.12	4	0.49	814	99.51	818
1974	210783	99.22	629	0.30	211412	99.52	1012	0.48	212424
1975	14299	96.75	138	0.81	14210	87.57	2065	12.43	16260
1976	11310	95.31	337	2.65	12455	98.96	129	1.04	12584
1977	52170	96.67	903	1.30	52803	97.98	1092	2.02	53895
1978	22263	97.46	1176	0.51	224249	97.77	5245	2.23	229494
1979	170050	90.90	976	0.50	171026	91.40	15796	8.52	186822
1980	71195	63.31	2138	1.77	73333	65.76	41107	34.24	120645
1981	57245	87.11	492	0.48	58026	87.59	14129	12.50	132155
1982	15422	66.32	313	0.62	15835	67.05	7809	32.95	23644
1983[b]	208837	00.52	0	0.00	208837	00.62	10393	3.46	208830
AVERAGE 1954-83	146879	30.52	529	1.06	147452	31.58	773	48.42	148225
1954-73	137561	53.46	1071	0.63	138632	54.09	1814	45.91	140446
1974-83	112030	84.07	659	0.91	112689	84.98	14892	15.02	129580

CHUM

YEAR	SEINE Catch	SEINE % Of total	GILLNET Catch	GILLNET % Of total	NET Catch	NET % Of total	TROLL Catch	TROLL % Of total	TOTAL
1954	202756	99.26	1504	0.74	204262	100.00	0	0.00	204262
1955	20349	95.80	890	4.19	21239	99.99	2	0.01	21241
1956	82531	99.83	140	0.17	82675	100.00	1	0.00	82676
1957	7166	100.00	0	0.00	7166	100.00	0	0.00	7166
1958	2951	47.73	4223	52.22	8174	99.95	4	0.05	8178
1959	12799	87.66	1802	12.34	14601	100.00	0	0.00	14601
1960	1243	100.00	0	0.00	1243	100.00	0	0.00	1243
1961	3317	92.08	275	7.00	3592	91.08	4	0.12	3596
1962	0	0.00	1369	99.42	1369	99.42	8	0.58	1377
1963	0	0.00	1	0.01	1	0.01	123	99.19	124
1964	100512	86.73	20198	13.25	212723	99.98	48	0.02	212771
1965	72743	70.48	19126	21.49	92749	99.98	109	0.12	92858
1966	51435	91.22	2605	8.86	54040	99.08	69	0.12	54509
1967	27533	63.36	12133	30.22	39666	99.32	32	0.08	39698
1968	52030	79.32	13345	20.65	65375	99.98	16	0.02	65391
1969	63778	98.13	8865	13.65	72643	99.78	14	0.02	72657
1970	167287	87.36	24110	12.58	191397	99.95	94	0.04	191491
1971	73035	96.11	2124	2.80	82154	99.91	72	0.09	82226
1972	102810	84.27	18767	15.40	121577	99.77	286	0.23	121863
1973	54635	83.69	10522	16.13	64952	99.88	80	0.12	65032
1974	42108	67.70	20161	31.67	66211	99.37	418	0.63	66629
1975	30431	86.24	14299	13.64	92480	99.98	3	0.02	92484
1976	14919	86.23	372	12.98	2651	99.17	20	0.83	2675
1977	10491	25.36	9234	43.49	19725	98.85	236	1.16	19961
1978	11430	81.78	206	0.96	11636	94.19	661	5.36	12297
1979	16196	86.25	536	4.23	16732	99.78	36	0.22	16768
1980	36492	64.63	19041	33.29	54975	98.00	1087	1.93	56062
1981	7609	72.68	630	6.01	8239	91.32	1116	10.51	9355
1982	4078	95.30	1201	8.48	5279	91.70	1116	2.25	51475
1983[b]	8361	00.00	0	0.00	8361	00.00	838	0.00	9025
AVERAGE 1954-83	33431	72.32	1026	12.68	24858	90.00	14	10.20	25872
1954-73	87511	84.51	14352	15.46	92063	99.98	38	0.03	102142
1974-83	25450	78.78	6472	17.13	30681	95.91	754	3.98	27606

Table 8 (cont'd).

	CHINOOK									TOTAL SALMON								
	SEINE		GILLNET		NET		TROLL		TOTAL	SEINE		GILLNET		NET		TROLL		TOTAL
YEAR	Catch	% Of total	Catch	% Of total	Catch	% Of total	Catch	% Of total		Catch	% Of total	Catch	% Of total	Catch	% Of total	Catch	% Of total	
1954	0	0.28	0	0.00	0	0.28	3876	99.72	3884	1254054	99.34	1573	0.12	1255627	99.47	4215	0.33	1259842
1955	0	0.00	0	0.00	0	0.00	3071	100.00	3071	28100	82.58	1917	3.03	29117	86.61	4502	13.39	33619
1956	1	0.02	0	0.00	1	0.02	5304	99.98	5305	170688	95.57	398	0.22	171076	95.78	7529	4.22	178605
1957	0	0.00	0	0.00	0	0.00	3713	100.00	3713	15637	64.04	1305	5.34	16942	69.38	7477	30.62	24419
1958	0	0.00	4	0.21	4	0.21	1896	99.79	1900	185090	91.70	13123	6.51	198213	98.20	3445	1.71	201658
1959	0	0.00	1	0.04	1	0.04	2311	99.96	2312	12879	64.13	2576	12.83	15455	76.95	4629	23.05	20084
1960	5	0.28	0	0.00	5	0.28	1756	99.72	1761	166546	96.29	1701	1.03	168247	97.42	4464	2.58	172711
1961	0	0.00	2	0.17	2	0.17	1160	99.83	1162	3185	73.94	1280	14.56	4473	50.48	4388	49.52	8861
1962	0	0.00	0	0.00	0	0.00	3417	100.00	3417	1835	4.77	4272	11.10	6107	15.86	32390	84.14	38497
1963	0	0.00	233	6.35	233	6.35	3436	93.65	3669	0	0.00	3437	13.25	3437	13.25	22494	86.75	25931
1964	1	0.02	2	0.04	3	0.06	5189	99.94	5192	189435	77.47	29543	12.08	218978	89.55	25554	10.45	244532
1965	11	0.14	13	0.17	24	0.31	7646	99.69	7670	76052	65.42	21520	18.51	97610	83.97	18634	16.03	116244
1966	0	0.00	2	0.01	2	0.01	13623	99.99	13625	254540	86.21	7674	2.60	262222	88.81	32696	11.09	294918
1967	0	0.00	2	0.02	2	0.02	9048	99.98	9050	40874	52.94	12937	16.76	53811	69.70	23393	30.30	77204
1968	12	0.25	1	0.02	33	0.77	4239	99.23	4272	281771	89.72	15207	4.84	296978	94.56	17082	5.44	314060
1969	6	0.04	64	0.46	70	0.50	13968	99.50	13938	54875	65.59	9636	9.71	74401	75.39	24435	24.79	98926
1970	5	0.06	40	0.46	45	0.51	8698	99.49	8743	491997	90.96	27567	5.10	519564	96.06	21327	3.94	540831
1971	7	0.02	11	0.05	18	0.09	20469	99.91	20487	62300	68.61	5427	4.52	87735	73.14	32222	26.86	119957
1972	144	1.05	15	0.11	159	1.16	13519	98.84	13758	749365	92.70	31783	3.93	781148	96.63	27242	3.37	808390
1973	9	0.17	4	0.07	13	0.24	5383	99.76	5396	55249	70.33	12826	16.33	68075	86.66	10477	13.34	78552
1974	795	2.79	5	0.02	800	3.81	20191	96.19	20991	280354	82.40	23243	6.70	303597	89.25	36522	10.74	339911
1975	778	4.39	22	0.13	800	4.80	16857	95.20	17707	51797	56.46	17134	18.68	68931	75.14	22811	24.86	91742
1976	1990	7.45	43	0.17	1943	7.62	23561	92.38	25504	25321	40.73	1727	2.78	27048	43.51	35115	56.49	62163
1977	28723	50.24	47	0.11	21770	50.34	21472	49.66	43242	134250	77.87	9586	5.69	140836	83.56	27710	16.44	168554
1978	9393	26.21	23	0.08	9340	26.29	26114	73.72	35454	260971	79.17	3365	1.02	263336	80.17	65137	19.81	328473
1979	24932	45.33	32	0.62	23044	45.95	27769	54.05	50813	416492	84.29	2702	0.55	419194	85.34	72093	14.66	491287
1980	10964	22.93	269	0.57	11112	23.49	36274	76.51	47386	165553	41.58	27709	7.10	189262	56.67	144681	43.33	333943
1981	8814	19.69	26	0.06	8840	19.75	35920	80.25	44760	137683	46.40	1774	0.61	139457	47.00	154989	53.00	294446
1982	4250	9.52	1	0.00	4251	9.52	40358	90.48	44609	82035	46.15	2293	1.30	84328	47.75	92289	52.25	176617
1983[b]	9600	21.48	0	0.00	9600	21.48	35108	78.52	44708	503010	91.14	0	0.00	503010	91.14	48900	8.86	551910
AVERAGE 1954-83	1	0.06	4	0.68	25	0.74	2894	99.26	2919	181061	63.57	3076	6.80	186877	70.37	9553	29.63	196431
1954-73	22	0.23	15	0.14	37	0.37	10176	99.63	10213	238642	76.91	17413	9.44	246660	85.45	23305	14.55	269965
1974-83	10134	21.30	52	0.14	10464	21.24	28240	78.76	34708	209230	89.61	8533	4.45	213771	89.96	28028	10.04	283799

[a] From B.C. Catch Statistics.

[b] Preliminary catch estimates based on sales slips.

record and surpassed the 1974 to 1983 Area 2W catch average by 259% (Table 8). Similarly, the 1983 pink catch estimate of 288,037 was the highest odd-year catch on record and surpassed the 1974 to 1983 catch average by 155% (Table 8). In addition, it was the largest pink catch in that time period, which included substantial even-year fisheries on local Queen Charlotte Islands stocks (Table 8). For the remaining species, no increases were experienced in the 1983 net catch estimates relative to the 1974 to 1983 catch averages: the coho net catch was approximately half the previous 10-year average, while chum and chinook catches were down by 76% and 59% respectively (Table 8).

Salmon catch breakdowns by gear indicated a 26% increase in the seine catch component of the 1983 catch compared to the 1974 to 1983 mean seine catch percent (Table 8). No gillnet effort was expended in Area 2W in 1983.

The annual fishing effort in Area 2W from 1954 to 1983 as indicated by seasonal gear levels, number of fishing days and mean weekly effort is presented in Table 9. Preliminary 1983 data on seasonal gear levels in Area 2W indicated 93 seines and 0 gillnets which was well below the 1974 to 1983 averages of 190 seines and 85 gillnets. Similarly, the number of fishing days in 1983 was well below the previous 10-year average. The mean weekly seine effort in 1983 was nearly equal to the 1974 to 1983 average, while the total lack of gillnet effort was the first since 1954 (Table 9).

ESCAPEMENTS, AREA 2W

The annual salmon escapements to Area 2W by species for the period 1947 to 1983 are presented in Table 10. The 1983 chum escapement of 32,169 was only 16% of the optimum level and 62% of the previous 10-year average. The 1983 escapements for sockeye, coho and pink salmon were 3,658, 795 and 516 respectively and were similar to the previous 10-year averages. As was forecast, the Area 2W stocks were insufficient to warrant any commercial fisheries and the majority of the 1983 catch in Area 2W was comprised of migrating stocks.

REVIEW OF PAST AND PRESENT FISHERIES, AREA 2W

Assessment of the Area 2W salmon interception net fisheries in terms of historical catch trends, comparison between the pre-season and actual fishing strategies, stock composition, management, and fleet control is provided in the following section.

Since 1954, when catches were first separately recorded for the east and west coasts of the Queen Charlotte Islands, the occurrence of sockeye catches in Area 2W ranged from early June to as late as early October in some years. During the first 20 years of these records, sockeye catches were mostly limited to the mid-June to early July period corresponding to the near shore migration and escapement of Area 2W sockeye stocks. These were composed of two small populations located in Mercer and Fairfax creeks with escapements averaging less than 5,000 in each stream. Fisheries on Mercer Creek sockeye occurred in Athlow Bay while Fairfax Creek sockeye were harvested in Tasu Sound (Fig. 3). Seasonal net catches ranged from less than 50 to 6,500 sockeye. The gillnet component of the total Area 2W sockeye catch during this time period was quite high, averaging 73% with an average

Table 9. Annual salmon fishing effort by gear, Area 2W, 1954-1983.

YEAR	NO. GEAR			NO. DAYS FISHING		MEAN EFFORT/ WEEK FISHING[a]		
	Seine	Gillnet	Troll	Seine	Gillnet	Seine	Gillnet	Troll
1954	178	5	221	26	7	37.5	4.5	14.5
1955	9	14	262	13	8	27	7	17.5
1956	235	10	386	30	19	33.5	3.5	45
1957	15	4	542	20	10	4	2	45
1958	117	117	220	12	32	20	14.5	14.5
1959	14	22	289	3	14	7	16.5	17
1960	178	32	308	16	18	44.5	8	18
1961	1	42	383	1	17	1	10.5	22.5
1962	1	34	853	5	10	1	8.5	42.5
1963	0	38	747	0	18	0	9.5	34
1964	150	100	895	12	19	24.5	26.5	39
1965	99	183	1082	10	18	33	46.5	54
1966	18	56	1064	13	23	34.5	4.5	34.5
1967	54	108	1406	1	25	13.5	13.5	64
1968	145	105	703	26	14	18	15	27.5
1969	0	72	1417		31	0.5	20	90.5
1970	328	191	1137	28	16	47	36	37
1971	106	53	1767	17	20	25	9	93
1972	389	240	1495	20	44	54.5	15.5	42.5
1973	198	144	736	4	16	54	7.5	41
1974	274	276	1338	13	20	39.5	33.5	67
1975	182	191	1574	22	22	35.5	34	78.5
1976	70	36	1733	22	22	17.5	6	72
1977	304	215	1976	28	17	41	22	70
1978	138	15	2766	22	14	19.5	2.5	131.5
1979	410	24	2583	34	17	45.5	4	103.5
1980	240	164	6918	20	18	24	14	216
1981	110	19	7398	14	6	11	1.5	321.5
1982	99	16	6201	6	1	16.5	8.5	688.5
1983[b]	93	0	N/A[c]	9	0	20.5	0	N/A
AVG.1954-63	143	35	422	13	13	26	8	24
1964-72	156	131	1151	14	21	34	17	54
1973-83	190	85	3610	20	13	23	11	144

[a]Total No. gear/No. weeks fishing.
[b]Preliminary effort estimates.
[c]Not available at time of printing.

Table 10. Annual spawning escapements for sockeye, coho, chum and pink, Area 2W, 1947-1983.

Year	Sockeye	Coho	Chum	Pink
1947	NA[a]	925	139425	600
1948	3500	1755	299025	2175
1949	NA	1425	163650	825
1950	2000	1440	135240	13425
1951	2900	1650	269475	5025
1952	NA	6255	309375	447525
1953	1150	1770	215475	1425
1954	1150	5190	191250	261000
1955	900	1770	119475	600
1956	2500	6975	141525	117525
19[illegible]	NA	11130	149250	1125
1958	7500	1275	85950	111525
1959	5000	810	44625	6375
1960	9300	6090	317625	1482300
1961	5500	3675	88425	8550
1962	3900	10350	52350	61275
1963	7700	1215	70875	3750
1964	3000	10500	221775	562125
1965	9000	4455	54225	23475
1966	9000	17775	1244475	1223775
19[illegible]	7800	9682	1148000	8000
1968	8500	4630	119121	146775
1969	15000	4110	79500	8025
1970	4500	3650	132750	295425
1971	4500	690	78975	NA
1972	5650	2850	142500	221000
1973	5400	271	49950	NA
1974	3000	835	59625	147675
1975	1620	350	28701	350
1976	1850	648	31579	47971
1977	1201	635	49721	125
1978	4053	1054	36145	155413
1979	4452	951	49609	901
1980	2050	965	69705	184976
1981	4560	1952	47925	457
1982	3831	656	59465	112474
1983	3436	795	32159	320

					ODD-YEAR	EVEN-YEAR
AVG	1947-83	4191	4852	159349	2214	2152
	1964-79	7175	5464	111643	15603	2747
	1947-81	4881	4914	141899	4117	3227

[a]Not available.

annual catch level of 1,425 sockeye (Table 8). Fishing was concentrated in the sheltered bays where the seasonal average weekly effort of gillnets amounted to 14 boats. The management of the area was not well defined; it appeared that the west coast waters of the Charlottes were typically open to salmon fishing until conservation concerns warranted partial or complete closure.

In 1974, sockeye catches escalated to 15 times the previous 20-year catch average as seine vessels successfully explored outer areas of the west coast for fishing opportunities (Table 8). It soon became apparent that passing salmon stocks could be exploited in Area 2W; thenceforth, the Rennell Sound interception fishery developed in an opportunistic manner with little policy or management on the part of DFO. In 1979, seine catches on passing stocks peaked at 180,000 sockeye, 179,000 pink, 23,000 chinook, and 25,000 coho salmon (Table 8). Previous high catches by species for seines were: 43,000 sockeye, 53,000 odd-year pink, 22,000 chinook, and 15,000 coho, the former three of which were taken during the post-1974 interception period. Prior to that, seine catches averaged only 700 sockeye, 1,400 pink, 18 chinook and 2,800 coho.

Following the 1977 and 1979 peak seine chinook catches which represented almost half the total annual Area 2W chinook catch, gear allocation disputes arose among trollers who had traditionally been responsible for virtually the entire Area 2W chinook catch (Kadowaki 1979). Chinook conservation concerns became equally apparent at that time and a Departmental policy gradually evolved to limit certain interception net fisheries along the B.C. coast to 2 days/week as an initial means of controlling the accelerated exploitation of mixed stocks. In 1982, a 5,000 piece catch limit was placed on chinook in the Area 2W net fishery for conservation of natural chinook stocks. Trollers, however, continued to increase their catch of chinook despite management actions initiated that year in the form of a two-week North Coast troll closure.

Assessment of 1983 salmon fishery, Area 2W

In 1983, the 5,000 chinook catch limit was maintained in the Rennell Sound interception net fishery despite record catches of sockeye and odd-year pink salmon. The pre-season management option to limit this fishery to peak sockeye and pink interception weeks appeared to work well in terms of minimizing chinook interceptions (Dept. Fisheries and Oceans 1983). However, low chinook catches may also have been due to an observed low chinook abundance that year and their unavailability to seine gear under the warmer water conditions encountered in 1983. Although a policy limiting interception net fisheries to 2 days/week had been established in previous years, in 1983 additional fishing days were permitted in peak weeks because of the low incidence of chinook in the catch and relatively good catches of pink and sockeye.

Stock composition through scale analysis of the Area 2W sockeye catch indicated the following weekly Fraser River sockeye component: July 24-27, 75%; August 1, 92%; and August 8, 100% (J. Woodey, IPSFC, pers. comm.). Although pink salmon were not sampled in 1983, scale samples collected in Area 2W in 1979 indicated a high Fraser River component as well as other non-

Skeena stocks in the catch (J. Woodey, IPSFC, pers. comm.). Additionally, the highest odd-year pink catch of 1983 in Area 2W corresponded to a high Fraser River pink salmon return of 14.6 million. While the 1979, 1981 and 1983 Fraser River pink salmon stocks have been the largest since 1947, peak odd-year catches occurred in Area 2W in only two of those years. Although differences could not be explained by variable effort, factors influencing the catch may have included the distribution and migration routes of salmon off the west coast of the Queen Charlottes. The 1983 predictions that the warmer waters of the El Nino might influence migrating salmon to "landfall" further north signified that higher catches might be anticipated in Area 2W, especially of Fraser River salmon bound for Johnstone Strait (Orman 1983). Correspondingly, estimates of the 1983 diversion rate of Fraser salmon through Johnstone Strait were unusually high at 85% for sockeye and 64% for pinks (J. Woodey, IPSFC, pers. comm.).

In terms of stock management, no apparent conservation problems arose from the record sockeye and odd-year pink catches in Area 2W in 1983. The essentially Fraser River sockeye component was derived from a stock size of 5.2 million, the largest return on cycle since 1951. An estimated exploitation rate of just over 3.5% was exerted in Area 2W on the predominant age 42 sockeye originating chiefly from the Chilco and Adams rivers. Although the stock composition of the Area 2W pink catch was less well-defined, the exploitation rate on an assumed 100% Fraser River component would have been less than 2 %.

In terms of fleet management, Area 2W openings were synchronized with fisheries in one or more of Areas 1, 3, 4, 5 and 6. Gear levels were consequently moderate and CPUE was relatively high. Because of the unusual warm water conditions in 1983 and the possible effect this may have had on the migration routes and timing of salmon, it will be necessary to closely monitor this fishery to determine if species catch mix and origin change.

AREA 2E

1983 PRE-SEASON FISHING PATTERN

As in Areas 1 and 2W, no net fisheries were anticipated on local stocks in Area 2E as escapements were expected to be less than optimum for all salmon species (Append. 3).

1983 WEEKLY FISHING SUMMARY, AREA 2E

As expected in the pre-season fishing plans, no net fisheries were held in Area 2E due to the low stock abundance of local chum salmon and the off-cycle year for pink salmon. By comparison, the 1954 to 1982 catch data by gear for Area 2E (Table 11) and the historical effort data (Table 12) showed that during the preceeding 29 years, net fisheries were lacking in the area in 1979 only.

ESCAPEMENTS, AREA 2E

The annual salmon escapements to Area 2E by species for the period 1947 to 1983 are presented in Table 13. The 1983 escapements for sockeye (9,000)

Table 11. Annual commercial salmon catches by species and year, Area M, 1954-1983[a]

SOCKEYE

YEAR	SEINE Catch	SEINE % Of total	GILLNET Catch	GILLNET % Of total	NET Catch	NET % Of total	TROLL Catch	TROLL % Of total	TOTAL
1954	33	60.00	21	38.18	54	98.18	1	1.82	55
1955	2665	99.89	0	0.00	2665	99.89	3	0.11	2668
1956	9	81.82	1	9.09	10	90.91	1	9.09	11
1957	3	20.00	0	0.00	3	20.00	12	80.00	15
1958	5	14.71	1	2.94	6	17.65	28	82.35	34
1959	0	0.00	454	87.64	454	87.64	64	12.36	518
1960	11	61.11	6	33.33	17	94.44	1	5.56	18
1961	2	66.67	0	0.00	2	66.67	1	33.33	3
1962	38	28.57	86	64.66	124	93.23	9	6.77	133
1963	1	0.61	141	85.98	142	86.59	22	13.41	164
1964	63	15.48	527	87.69	590	98.17	11	1.83	601
1965	16	1.89	794	93.96	810	95.86	35	4.14	845
1966	7	2.71	168	62.02	167	64.73	91	35.27	258
1967	0	0.68	909	75.17	906	75.86	292	24.14	1198
1968	15	8.45	31	26.05	41	34.45	78	65.55	119
1969	0	0.00	132	72.53	132	72.53	50	27.47	182
1970	36	2.67	185	18.99	211	21.66	763	78.34	974
1971	0	1.00	558	69.66	566	70.66	235	29.34	801
1972	190	16.33	29	4.55	133	20.88	504	79.12	637
1973	524	71.58	130	17.76	654	89.34	78	10.66	732
1974	3070	51.74	473	7.97	3543	59.72	2390	40.28	5933
1975	942	78.74	311	23.69	1253	95.49	60	4.57	1313
1976	1399	58.62	930	39.71	2329	91.33	203	8.67	2242
1977	15	1.18	835	65.85	850	67.03	416	32.97	1268
1978	60	1.75	85	2.48	145	4.22	3289	95.78	3434
1979	0	0.00	0	0.00	0	0.00	645	100.00	645
1980	4508	91.67	143	2.86	4723	94.54	273	5.46	4996
1981	175	1.48	719	6.09	894	7.58	10966	92.42	11860
1982	3	0.22	1	0.07	4	0.30	1348	99.70	1352
1983[b]	0	0.00	0	0.00	0	0.00	717	100.00	717
Average 1954-83	277	43	71	22	348	76	14	24	362
1954-78	77	12	342	53	419	64	213	36	632
1974-83	1005	27	320	15	1325	42	2025	58	3350

COHO

YEAR	SEINE Catch	SEINE % Of total	GILLNET Catch	GILLNET % Of total	NET Catch	NET % Of total	TROLL Catch	TROLL % Of total	TOTAL
1954	18436	41.51	2371	5.34	18436	41.51	25981	58.49	44417
1955	12550	15.48	2178	2.69	12550	15.48	68525	84.52	81075
1956	13352	11.63	1986	1.73	9982	8.76	103948	91.24	113930
1957	2239	2.81	137	0.17	2239	2.81	111425	97.19	113664
1958	3605	5.29	2384	3.67	3885	6.38	57029	93.61	60914
1959	706	1.45	4	0.01	706	1.45	47943	98.55	48649
1960	2588	3.54	562	0.79	2548	3.54	69128	96.46	70819
1961	10567	12.03	2692	3.06	10567	12.03	77276	87.97	87843
1962	8769	7.69	4739	4.07	8769	7.69	107605	92.31	116574
1963	9438	9.42	5101	5.17	9438	9.42	91001	90.58	99339
1964	16119	10.69	10129	6.79	16119	10.69	134408	89.31	150527
1965	7688	10.17	5853	7.75	7688	10.17	67880	89.83	75568
1966	6994	4.26	2862	1.74	6994	4.26	157961	95.74	164955
1967	10955	12.71	11545	13.39	10955	12.71	75261	87.29	86216
1968	7140	5.30	14373	10.68	7140	5.30	127487	94.70	134627
1969	966	1.67	5074	8.78	966	1.67	56029	98.33	57790
1970	5583	5.64	16825	17.01	4776	4.83	94126	95.17	98802
1971	5344	4.71	13000	11.45	4196	3.75	107332	96.30	112523
1972	4662	3.84	6427	5.30	4662	3.84	116698	96.16	121265
1973	1931	2.06	7338	7.83	1931	2.06	91317	97.34	93744
1974	1591	1.58	3910	3.97	1591	1.58	99017	98.42	100528
1975	274	0.49	183	0.33	274	0.49	55914	99.51	56188
1976	1071	3.56	2535	8.36	1071	3.56	131431	96.44	136122
1977	5560	13.06	5239	12.95	5560	13.06	37010	86.94	42570
1978	1705	1.17	8202	5.65	1705	1.17	143531	98.83	145236
1979	0	0.00	0	0.00	0	0.00	105344	100.00	105344
1980	1107	1.04	4858	4.51	1107	1.04	105438	98.96	106545
1981	117	0.12	679	0.67	117	0.12	100638	99.88	100755
1982	488	0.73	3163	4.72	488	0.73	66520	99.27	67008
1983[b]	0	0.00	0	0.00	0	0.00	105212	100.00	105212
Average 1954-83	4345	11	3196	3	4018	11	76276	89	84396
1954-78	4738	6	5933	9	6543	6	103112	94	107655
1974-83	1791	2	3806	3	1791	2	101070	98	102861

PINK

YEAR	SEINE Catch	SEINE % Of total	GILLNET Catch	GILLNET % Of total	NET Catch	NET % Of total	TROLL Catch	TROLL % Of tota	TOTAL
1954	319764	98.13	5545	1.70	325309	99.83	538	0.17	325847
1955	25681	96.60	317	1.19	25998	97.87	566	2.13	26564
1956	152858	98.11	1008	0.65	153866	98.76	1933	1.24	155799
1957	127262	98.43	17	0.01	127279	98.44	2022	1.56	129301
1958	413525	97.13	11017	2.59	424542	99.72	1181	0.28	425723
1959	4148	56.34	388	5.04	4728	61.38	3975	38.62	7703
1960	109119	92.99	6868	5.43	115987	99.00	1133	0.98	117020
1961	15807	89.99	445	2.42	16252	90.41	2031	11.59	18283
1962	787442	92.65	54062	6.36	841504	99.01	8431	0.99	849935
1963	2	0.04	2	0.04	4	0.07	5643	99.93	5647
1964	32932	63.08	4123	9.03	37055	72.15	14255	27.87	51307
1965	94	2.62	122	4.10	216	7.40	2703	92.60	2919
1966	275226	98.06	171	0.06	275397	98.12	20285	9.88	295682
1967	2149	15.11	1034	3.70	3674	18.91	11469	81.09	14143
1968	4716128	91.14	127123	2.46	4843255	93.60	331326	6.40	5174581
1969	23243	82.27	2699	0.81	25232	91.08	2519	8.92	28251
1970	5320510	87.64	45416	7.40	5775756	95.12	295995	4.88	6071751
1971	336	2.31	444	10.01	90	10.54	3268	81.99	4138
1972	3644[c]	90.36	11883	2.97	374218	93.53	24131	6.0	400141
1973	282	7.10	170	4.28	452	11.37	3522	98.63	3974
1974	2188610	96.80	2644	1.18	2215754	97.98	6279	2.02	2263133
1975	5440	63.63	324	3.62	5764	65.31	3078	13.69	8842
1976	16070173	98.70	16225	1.00	16234427	99.70	4952	0.30	16239379
1977	1459	15.68	1500	15.58	2957	30.66	6710	69.34	9677
1978	2304[c]	93.93	2453	0.38	217446	94.31	13232	5.69	230678
1979	0	0.00	0	0.00	0	0.00	25041	100.00	25041
1980	603	2.34	308	0.56	1003	2.93	33251	97.07	34254
1981	864	4.44	43	0.22	907	4.67	18535	95.33	19442
1982	103	0.26	81	0.20	188	0.46	37662	99.54	39846
1983[b]	0	0.00	0	0.00	0	0.00	32960	100.00	32960
Average 1954-83	263790	82	7377	2	211762	68	2614	16	214161
1954-78	176157	54	7868	5	178025	59	12138	41	190163
1974-83	201962	30	2351	2	209113	60	18102	40	227476

CHUM

YEAR	SEINE Catch	SEINE % Of total	GILLNET Catch	GILLNET % Of total	NET Catch	NET % Of total	TROLL Catch	TROLL % Of total	TOTAL
1954	212021	88.76	26322	11.22	238054	99.98	55	0.02	238069
1955	26040	85.58	19336	14.98	55376	99.98	10	0.02	55446
1956	51596	66.65	25703	33.32	77299	99.97	40	0.03	77339
1957	9825	42.29	12810	57.49	23362	99.78	47	0.22	23402
1958	13027	82.52	2727	17.27	15754	99.80	32	0.20	15786
1959	0	0.00	6	28.57	6	28.57	15	71.43	21
1960	2744	85.86	444	13.89	3188	99.75	8	0.25	3196
1961	26805	55.29	29545	44.56	66350	99.85	100	0.15	66450
1962	87355	44.39	59277	55.58	146632	99.97	58	0.03	146690
1963	64404	46.04	75498	53.88	139902	99.92	119	0.10	140021
1964	252208	51.30	237276	48.64	543576	99.94	320	0.06	543896
1965	26471	38.75	41950	60.93	72939	99.68	241	0.32	73170
1966	82484	68.41	46470	35.32	127954	99.73	351	0.27	128313
1967	141433	37.12	240349	62.86	381672	99.98	97	0.02	381769
1968	1633323	20.65	4866139	78.33	5700232	99.98	109	0.02	5700341
1969	7243	14.22	41393	85.21	48636	99.99	287	0.56	50923
1970	1044565	28.65	2570859	70.98	3615510	99.64	1256	0.37	3616766
1971	31855	30.13	2310154	69.56	3021139	99.69	1106	0.36	3042245
1972	74135	27.01	201353	72.85	281488	99.86	387	0.14	281875
1973	106460	41.38	2941129	56.67	4305397	99.95	216	0.05	4305613
1974	17121	11.41	132486	88.26	149607	99.68	480	0.32	150443
1975	284	9.61	1729	58.47	1943	87.29	283	12.71	2226
1976	18776	33.29	28223	66.56	47715	99.85	70	0.15	47785
1977	57358	33.47	113467	66.20	170821	99.67	571	0.33	171392
1978	25754	22.21	89445	77.00	115199	99.21	918	0.79	116117
1979	0	0.00	0	0.00	0	0.00	1059	100.00	1059
1980	23529	15.83	94858	79.45	118387	99.11	815	0.69	119202
1981	10755	35.92	18492	61.76	29247	97.66	702	2.34	29953
1982	2259	6.82	30315	91.24	32574	98.07	725	1.93	33299
1983[b]	0	0.00	0	0.00	0	0.00	838	100.00	838
Average 1954-83	53284	30	75499	33	99413	33	90	2	78523
1954-78	11869	36	19119	64	30988	100	48	0	31036
1974-83	15619	18	51352	60	66971	78	847	22	82818

Table 11 (cont'd).

YEAR	CHINOOK SEINE Catch	CHINOOK SEINE % Of total	CHINOOK GILLNET Catch	CHINOOK GILLNET % Of total	CHINOOK NET Catch	CHINOOK NET % Of total	CHINOOK TROLL Catch	CHINOOK TROLL % Of total	CHINOOK TOTAL	TOTAL SALMON SEINE Catch	TOTAL SALMON SEINE % Of total	TOTAL SALMON GILLNET Catch	TOTAL SALMON GILLNET % Of total	TOTAL SALMON NET Catch	TOTAL SALMON NET % Of total	TOTAL SALMON TROLL Catch	TOTAL SALMON TROLL % Of total	TOTAL SALMON TOTAL
1974	0	0.00	3	0.07	2	0.07	4091	99.93	4102	630264	82.30	44862	6.36	675127	95.65	30474	4.35	705601
1975	0	0.00	0	0.00	0	0.00	3324	100.00	3324	29936	44.95	21831	14.73	38187	57.70	23808	42.30	171135
1976	2	0.02	38	0.44	40	0.46	8602	99.54	8642	137667	55.72	88816	5.68	226483	65.40	114529	34.60	331007
1977	1	0.01	0	0.00	1	0.01	8466	99.99	8467	139960	50.90	12464	4.54	152324	55.41	122472	44.57	274796
1978	0	0.00	0	0.00	0	0.00	8332	100.00	8332	493162	84.12	15923	3.11	449691	87.23	65302	12.77	514993
1979	0	0.00	1	0.02	2	0.02	10720	99.98	10722	5126	6.97	854	1.16	5980	8.13	67587	91.87	73567
1980	0	0.00	0	0.00	0	0.00	10145	100.00	10145	134382	68.90	7860	2.80	202252	71.70	79513	28.22	281765
1981	4	0.06	0	0.00	4	0.06	6886	99.94	6890	63833	34.61	32689	17.95	96515	52.56	86394	47.04	182909
1982	1	0.01	5	0.06	6	0.08	7733	99.92	7739	845855	77.77	118269	10.87	964074	88.64	123526	11.36	1087600
1983	66	0.90	19	0.26	85	1.16	7155	98.84	7240	73961	28.69	80715	31.35	154676	60.05	102854	39.95	257530
1984	18	0.35	89	1.74	107	2.09	5008	97.91	5115	341462	43.49	292794	37.12	634256	80.41	154569	19.59	788825
1985	11	0.87	94	0.86	113	1.03	10825	98.97	10939	34388	19.90	56327	32.60	90615	52.50	81652	47.41	172267
1986	68	0.55	11	0.09	79	0.64	12303	99.36	12382	367779	59.51	26074	4.10	417853	67.63	200019	32.37	617872
1987	27	0.21	300	2.27	327	2.58	12346	97.42	12673	378553	30.64	259307	59.14	418060	80.78	99455	19.22	517515
1988	19	0.12	408	3.41	427	3.56	11582	96.44	12009	642379	51.48	414224	34.74	1056508	86.14	171182	13.86	1249789
1989	0	0.00	76	0.35	76	0.36	20607	99.74	20683	31452	18.48	51164	29.94	82616	48.34	88287	51.66	170903
1990	23	0.27	142	1.40	171	1.67	21053	98.33	21339	643323	57.77	321923	28.94	965246	86.72	147723	13.28	1112969
1991	13	0.04	937	1.43	510	1.52	32598	98.48	33458	37036	20.64	226263	48.03	263299	68.73	147012	31.27	470311
1992	40	0.10	531	0.61	371	0.71	40471	99.09	40902	441378	52.29	224023	26.30	665401	78.59	182385	21.41	847786
1993	37	0.11	108	0.33	145	0.42	34647	99.58	34792	103242	32.12	211875	44.08	441117	77.20	130276	22.80	571393
1994	34	0.07	374	0.79	408	0.86	47016	99.14	47424	249136	45.04	140287	26.34	389423	71.38	156508	28.72	545931
1995	164	0.37	4	0.01	168	0.38	43771	99.62	43939	7932	6.86	2451	2.18	10383	8.98	105306	91.56	115689
1996	330	0.55	69	0.10	447	0.65	68157	99.35	68604	1634506	83.93	48868	2.51	1683374	86.43	264752	13.60	1948367
1997	113	0.30	238	0.58	331	0.88	37163	99.12	37494	64505	24.10	131343	49.32	195848	73.42	81872	30.58	267720
1998	443	1.29	38	0.05	481	1.35	35128	98.65	35619	262795	47.18	100202	17.99	362997	65.16	194230	34.84	557227
1999	0	0.00	0	0.00	0	0.00	39127	100.00	39127	0	0.00	0	0.00	0	0.00	173016	100.00	173016
2000	125	0.35	34	0.10	159	0.45	35465	99.55	35624	48178	9.90	99636	32.68	129810	42.58	175052	57.42	304862
2001	13	0.04	35	0.33	175	0.41	24598	99.57	24816	11925	6.38	29328	15.72	31953	17.10	154861	82.90	186814
2002	4	0.01	1	0.00	5	0.02	31512	99.98	31517	3157	1.75	37461	20.77	40618	22.52	139767	77.48	180385
2003	0	0.00	0	0.00	0	0.00	18257	100.00	18257	0	0.00	0	0.00	0	0.00	167302	100.00	167302
5-YEAR	1994-98	7	0	7	0	14	0	7577	100	7591	265712	55	25430	10	301142	64	86525	36	387667
	1999-03	30	0	226	1	256	1	21143	99	21436	214418	39	216767	39	511778	73	140452	27	652220
	1974-03	127	0	81	0	208	1	31853	99	32061	422165	52	57020	16	295525	38	150708	62	442293

[1] From O.C. Catch Statistics.

[2] Preliminary catch estimates based on sales slips.

Table 12. Annual salmon fishing effort by gear, Area 2E, 1954-1983.

YEAR	NO. GEAR			NO. DAYS FISHING		MEAN EFFORT/ WEEK FISHING[a]		
	Seine	Gillnet	Troll	Seine	Gillnet	Seine	Gillnet	Troll
[illegible]								
[illegible]								
[illegible]							

Table 13. Annual spawning escanements for sockeye, coho, chum and pink, Area 2E, 1947-1983.

YEAR	SOCKEYE	COHO	CHUM	PINK
1947	[illegible]	[illegible]	[illegible]	[illegible]
1948	[illegible]	[illegible]	[illegible]	[illegible]
1949	[illegible]	[illegible]	[illegible]	[illegible]
1950	[illegible]	[illegible]	[illegible]	[illegible]
1951	[illegible]	[illegible]	[illegible]	[illegible]
1952	[illegible]	[illegible]	[illegible]	[illegible]
1953	[illegible]	[illegible]	[illegible]	[illegible]
1954	[illegible]	[illegible]	[illegible]	[illegible]
1955	[illegible]	[illegible]	[illegible]	[illegible]
1956	[illegible]	[illegible]	[illegible]	[illegible]
1957	[illegible]	[illegible]	[illegible]	[illegible]
1958	NA[a]	[illegible]	[illegible]	[illegible]
1959	[illegible]	[illegible]	[illegible]	[illegible]
1960	[illegible]	[illegible]	[illegible]	[illegible]
1961	[illegible]	[illegible]	[illegible]	[illegible]
1962	[illegible]	[illegible]	[illegible]	[illegible]
1963	[illegible]	[illegible]	[illegible]	[illegible]
1964	[illegible]	[illegible]	[illegible]	[illegible]
1965	[illegible]	[illegible]	[illegible]	[illegible]
1966	[illegible]	[illegible]	[illegible]	[illegible]
1967	[illegible]	[illegible]	[illegible]	[illegible]
1968	[illegible]	[illegible]	[illegible]	[illegible]
1969	[illegible]	[illegible]	[illegible]	[illegible]
1970	[illegible]	[illegible]	[illegible]	[illegible]
1971	[illegible]	[illegible]	[illegible]	[illegible]
1972	[illegible]	[illegible]	[illegible]	[illegible]
1973	[illegible]	[illegible]	[illegible]	[illegible]
1974	[illegible]	[illegible]	[illegible]	[illegible]
1975	[illegible]	[illegible]	[illegible]	[illegible]
1976	[illegible]	[illegible]	[illegible]	[illegible]
1977	[illegible]	[illegible]	[illegible]	[illegible]
1978	[illegible]	[illegible]	[illegible]	[illegible]
1979	[illegible]	[illegible]	[illegible]	[illegible]
1980	[illegible]	[illegible]	[illegible]	[illegible]
1981	[illegible]	[illegible]	[illegible]	[illegible]
1982	[illegible]	[illegible]	[illegible]	[illegible]
1983	[illegible]	[illegible]	[illegible]	[illegible]

				1000-1947	1983-1947
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[a]Not available.

and coho (28,660) were below the optimum levels; coho escapement was also below the previous 10-year average by 33%. The 1983 chum escapement of 156,080 was only 39% of the optimum level but was similar to the previous 10-year average of 143,092. The 1983 pink escapement of 13,245 was similar to the previous 10 odd-year average.

1983 TROLL FISHERY, NORTH COAST

The 1983 troll fishery proposals were less settled than the net fishing proposals, being subject to the outcome of the Canada-U.S. salmon negotiations. In the event of a Salmon Agreement, the northern troll fishery, comprised of Statistical Areas 1 through 11, was to have reduced its chinook catch by approximately 50,000 pieces. This would have entailed a 4-to-8 week closure in the otherwise continuous 7 days/week fishery commencing April 15 for chinook and July 1 for coho and lasting until September 30.

Salmon trolling commenced in North Coast waters (Areas 1-11) on April 15 for chinook and July 1 for coho for 7 days/week until September 30. The Canada-U.S. salmon negotiations did not result in a salmon agreement; chinook conservation measures were limited to the 1982 two-week closure in the northern troll fishery from June 17 to 30. The preliminary 1983 troll catch estimate for combined Areas 1, 2W and 2E of 130,000 chinook was slightly below the 1974 to 1983 catch average of 139,000 chinook (Tables 3, 8 and 11).

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Appendix 1. Salmon expectations and fishing plans, Area 1, north coast Queen Charlotte Islands, 1983.[a]

Species	Cycle year catch		Cycle year escapement		1983 Escapement Expected	1983 Escapement Optimum	Expectations
Sockeye	(1979)	74,300		21,000	25,000	55,000	No anticipated openings on local stocks. Commercial catch will be dependent on strength of passing stocks and subject to chinook interception levels.
	10 year average	59,700	10 year average	27,700			
Coho	(1980)	307,500		17,600	50,000	150,000	No directed net openings.
	10 year average	193,500	10 year average	57,000			
Pink	(1981)	517,500		3,700	8,000	30,000	Off year cycle. No directed openings.
	5 cycle average	196,300	5 cycle average	9,400			
Chum	(1979)	8,900		33,500	40,000	85,000	No anticipated openings.
	10 year average	20,400	10 year average	40,700			
Chinook	(1979)	64,900		500	1,000	5,000	No anticipated openings.
	10 year average	70,900	10 year average	900			

PROPOSED FISHING PATTERN

OBJECTIVE: To conserve local stocks. Net fishing times, intended to provide for local fisheries on passing stocks, will be restricted so as not to encourage accelerated interceptions and to maintain the chinook harvest at the 1960-1980 average of approximately 5,000.

EFFECTIVE DATE	ACTION
April 15 - UFN[b]	Sub-area 1-4 (Naden Harbour) and sub-area 1-6 (Masset Inlet and Sound) closed to all gear.
July 3- August 6	Open to net fishing 1 day per week. Extensions will be considered during peak abundances of passing sockeye and pink stocks.
August 7 - UFN	Abundance of local chum stocks will be monitored.

[a]Source: 1983 Pacific Region Commercial Fishing Guide.

[b]Until further notice.

Appendix 2. Salmon expectations and fishing plans, Area 2W, west coast Queen Charlotte Islands, 1983.[a]

Species	Cycle year catch		Cycle year escapement	1983 Escapement Expected	1983 Escapement Optimum	Expectations
Pink						Off cycle year. No commercial openings.
Chum	(1979)			49,600	95,600	200,000	No anticipated openings. Several areas are not expected to reach escapement requirements. However, monitoring will continue to determine whether stock strength may permit a possible fall fishery.
	(1980)	47,100		89,700		
	5 year average	39,000	5 year average	61,000		

PROPOSED FISHING PATTERN

OBJECTIVE: To conserve local stocks. Net fishing times, intended to provide for local fisheries on passing stocks, will be restricted so as not to encourage accelerated interception and to limit the chinook harvest to approximately 5,000 as part of a reduction of recent years' accelerated catch.

EFFECTIVE DATE	ACTION
July 3-August 6	Open to net fishing 1 day per week in Rennell Sound and Kano Inlet only. Extensions will be considered during peak abundances of passing sockeye stocks.
OR	
July 17-August 6	Open to net fishing 2 days per week in Rennell Sound and Kano Inlet only. Abundance of local chum stocks will be monitored.

[a]Source: 1983 Pacific Region Commercial Fishing Guide.

Appendix 3. Salmon expectations and fishing plans, Area 2E, east coast Queen Charlotte Islands, 1983.[a]

Species	Cycle year catch		Cycle year escapement		1983 Escapement Expected	1983 Escapement Optimum	Expectations
Sockeye	(1978)	150		6,000	7,000	30,000	A below average return. No commercial openings.
	(1979)			3,000			
	10 year average	1,300	10 year average	9,200			
Coho	(1980)	5,900		24,700	40,000	Unknown	A below average return. No directed net fishery anticipated.
	10 year average	6,600	10 year average	43,400			
Pink							Off year for pinks. No commercial openings.
Chum	(1978)	115,200		210,150	75,000	400,000	The return of 4 year olds is expected to be well below average due to the very weak 1979 brood stock. No anticipated openings.
	(1979)			43,200			
	(1980)	118,000		160,600			
	10 year average	135,400	10 year average	154,600			

PROPOSED FISHING PATTERN

NOTE: There are no anticipated openings. The return of the predominant age 4 class chum is expected to be very weak due to the extremely light seeding in 1979. Returns of age 3 and age 5 are expected to be average. Also, chum returns to the Pallant Creek hatchery facility are expected to be light mainly due to the weak return in 1979.

[a]Source: 1983 Pacific Region Commercial Fishing Guide.